



SEQUENCE LISTING

<110> INNOGENETICS N.V.

<120> New sequences of hepatitis C virus genotypes and their use as prophylactic, therapeutic and diagnostic agents.

<130> 2551-106

<140> US 09/851,138

<141> 2001-05-09

<150> EP 94870166.9

<151> 1994-10-21

<150> EP 95870076.7

<151> 1995-06-28

<160> 302

<170> PatentIn version 3.1

<210> 1

<211> 327

<212> DNA

<213> hepatitis C virus

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ggccccaggn ngggtgtgcg cgcgactagg aagacttccg agcggtcaca acctcgtggc 180
aggcgacagc ctatccccaa ggctcgycgg yccgagggca ggtcctgggc tcagccccc 240
tatccttggc ccctctatgg caatgagggc tgcgggtggg cgggntggct cctgtcccc 300
cgccgctctc ggcccaattg gggcccc 327

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1 5 10 15

Arg Arg Pro Xaa Xaa Xaa Xaa Pro Gly Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Xaa Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Ala Xaa Arg Xaa Glu Gly Arg Ser Trp Ala Gln Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Xaa Trp
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Asn Trp Gly Pro
100 105

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gtgtatcatg tcaccaacga ctgttccaac tcgagcatca tctatgagat ggacggat 180
atcatgcact acccagggtg cgtgccctgc gttcgggagg ataaccatct ccgctgctgg 240

atggcgctca ccccccacgct tgcggtcaaa aaygcttagtg tccccactrc ggcaatccga	300
cgtcacgtcg acttgcttgc tgggggnnc acgttctgtt ccgctatgta cgtgggrgac	360
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Asp Gly Val Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser
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Ile Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Xaa Thr Ala
20 25 30

His Glu Val Arg Asn Ala Ser Gly Val Tyr His Val Thr Asn Asp Cys
35 40 45

Ser Asn Ser Ser Ile Ile Tyr Glu Met Asp Gly Met Ile Met His Tyr
50 55 60

Pro Gly Cys Val Pro Cys Val Arg Glu Asp Asn His Leu Arg Cys Trp
65 70 75 80

Met Ala Leu Thr Pro Thr Leu Ala Val Lys Xaa Ala Ser Val Pro Thr
85 90 95

Xaa Ala Ile Arg Arg His Val Asp Leu Leu Val Gly Xaa Xaa Thr Phe
100 105 110

Cys Ser Ala Met Tyr Val Xaa Asp Leu Cys Gly Ser Val Phe Leu Ala
115 120 125

Gly Gln Leu Phe Thr Phe Ser Pro Arg Met His His Thr Thr Gln Glu
130 135 140

Cys Asn Cys Ser Ile
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ggccccaggt tgggtgtgcg cgcgaccagg aagacttccg agcggtcgca gcctcggtac 180
aggcgacagc ctattcctaa ggctcgccag tccgatggca gnnctgggc tcagccaggg 240
catccctggc ccctctatgg caatgagggc tgccatggg cgggatggct cctgtcccc 300
cgccggctctc ggcccagttg gggcccc 327

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Arg Arg Pro Gln Asp Val Lys Xaa Pro Gly Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Asp Arg Arg Gln Pro
50 55 60

Ile Pro Lys Ala Arg Gln Ser Asp Gly Xaa Xaa Trp Ala Gln Pro Gly
65 70 75 80

His Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro
100 105

<210> 7
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<212> DNA
<213> hepatitis C virus

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gctttctgt cctgcttgac ggttccaact accgctcatg aggtgcgcaa cgcatccggg 120
gtatatcatc tcaccaatga ctgttccaac tcgagcatca tctatgagat gagtggtatg 180
atcttgcacg ccccagggtg tgtgccctgc gttcgggaga acaactcttc tcgttgctgg 240
atgccrctca cccccacgct tgcggtaaa gacgctaattg tccctactgc ggcaatccga 300
cgccatgtcg acttgctggc tgggacagcc gcgttcgtt ccgctatgta cgtgggggac 360
ctctgcggat ccgtcttcct tgcggccag ctattcacct tttcaccccg cttgtaccat 420
acaacacagg agtgcaactg ctcaatc 447

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Asp Gly Val Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser
1 5 10 15

Ile Phe Leu Leu Ala Phe Leu Ser Cys Leu Thr Val Pro Thr Thr Ala
20 25 30

His Glu Val Arg Asn Ala Ser Gly Val Tyr His Leu Thr Asn Asp Cys
35 40 45

Ser Asn Ser Ser Ile Ile Tyr Glu Met Ser Gly Met Ile Leu His Ala
50 55 60

Pro Gly Cys Val Pro Cys Val Arg Glu Asn Asn Ser Ser Arg Cys Trp
65 70 75 80

Met Xaa Leu Thr Pro Thr Leu Ala Val Lys Asp Ala Asn Val Pro Thr
85 90 95

Ala Ala Ile Arg Arg His Val Asp Leu Leu Val Gly Thr Ala Ala Phe
100 105 110

Arg Ser Ala Met Tyr Val Gly Asp Leu Cys Gly Ser Val Phe Leu Val
115 120 125

Gly Gln Leu Phe Thr Phe Ser Pro Arg Leu Tyr His Thr Thr Gln Glu
130 135 140

Cys Asn Cys Ser Ile
145

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ggccctagat tgggtgtgcg cgagcgcgg aagacttcgg agcggtcgca acctcgtggg	180
aggcgccaac ctattccaa ggagcgccga cccgagggca ggt	223

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<211> 74

<212> PRT

<213> hepatitis C virus

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Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn			
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Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gly Gln Ile Val Gly		
20	25	30

Gly Val Tyr Val Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala		
35	40	45

Ala Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro		
50	55	60

Ile Pro Lys Glu Arg Arg Pro Glu Gly Arg	
65	70

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<212> DNA

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ggccccaggt tgggtgtgcg cgcgacgagg aagacttccg agcggtcgca acctcgccga	180
aggcgacagc ctatccccaa ggctcgccga cccgagggca ggtcctggc tcagcctggg	240
tacccatggc ccctctatgc taacgagggc tgcgatggg cgggatggct cctgtcccct	300
cgccgctccc gtcctagctg gggccccaaat gaccccgac gtagatcacg caattgggt	360
aaggtcatcg ataccctaac gtgtggcttc gccgatctca tgggtacat tccgctcgtc	420
ggcgcccccc tagggggcgc ttccagaacc ctgnacatg gtgtccgggt cctggnaggc	480
ggcgtgatnn nnnnnnnnnn naaccttcn gggtgcttt tnnctatctt cctcttggcn	540
ttactctctt gcctcacagt ccccacctct gcctatgagg tgcacagcac aaccgatggc	600
taccatgtca ctaatgactg ttccaaacggc agcatgtat atgaggcaaa ggacatcatc	660
cttcacacgc ctgggtgngt gccctgcata cgggaaggca atatctcccg ttgctggta	720
ccgctcaccc ccacgctcgc agcgccgatc gcgaacgctc ccatcgatga ggtgcggcgt	780
cacgtcgacc tcctcggtgg ggcagccgtg ttctgctcag ccatgtacat tggggacctt	840
tgtggggcgc tcttcctcgt tggcaattt ttcaccttca cgtcccgccg gcattggacg	900
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Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala

35

40

45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Ala Arg Arg Pro Glu Gly Arg Ser Trp Ala Gln Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Ala Asn Glu Gly Cys Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Asn Asp Pro
100 105 110

Arg Arg Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala Pro Leu
130 135 140

Gly Gly Ala Ser Arg Thr Leu Xaa His Gly Val Arg Val Leu Xaa Gly
145 150 155 160

Gly Val Xaa Xaa Xaa Xaa Xaa Asn Leu Xaa Gly Cys Ser Xaa Xaa Ile
165 170 175

Phe Leu Leu Xaa Leu Leu Ser Cys Leu Thr Val Pro Thr Ser Ala Tyr
180 185 190

Glu Val His Ser Thr Thr Asp Gly Tyr His Val Thr Asn Asp Cys Ser
195 200 205

Asn Gly Ser Ile Val Tyr Glu Ala Lys Asp Ile Ile Leu His Thr Pro
210 215 220

Gly Xaa Val Pro Cys Ile Arg Glu Gly Asn Ile Ser Arg Cys Trp Val
225 230 235 240

Pro Leu Thr Pro Thr Leu Ala Ala Arg Ile Ala Asn Ala Pro Ile Asp
245 250 255

Glu Val Arg Arg His Val Asp Leu Leu Val Gly Ala Ala Val Phe Cys
260 265 270

Ser Ala Met Tyr Ile Gly Asp Leu Cys Gly Gly Val Phe Leu Val Gly
275 280 285

Gln Leu Phe Thr Phe Thr Ser Arg Arg His Trp Thr Val Gln Asp Cys
290 295 300

Asn Cys Ser Ile Tyr Ser Gly His Ile Thr Gly His Xaa Xaa Xaa
305 310 315

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ggccccagat tgggtgtgcg cgcgacgaga aagacttctg aacggtccca gccacgtgga 180
aggcgccagc ccatccctaa agatcggn gn gccactggca ggtcctgggg acgtccagga 240
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cgaggcttc 310

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Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Asp Arg Xaa Ala Thr Gly Arg Ser Trp Gly Arg Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Leu Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly
100 105

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ggaaacctcc ctgggtgctc ctttctatc ttctngttgg ctcttctgtc ttgtgtcacc 180
gtgcctgtct ctgnccgttga ggtcaaaaat accagtcagg cctatatggc aaccaacgac 240
tgctccaaca acagcatcgt atggcaattg gnggacgcgg tgcttcatgt tcctggatgt 300
gtccccctgcg agaatagctc cggtcggttc cactgttggc tcccgatctc gcccaacata 360
gccgtgagca aacctggtgc tctcaccaag ggactgcggg cacgcattga tgccgtcgtg 420
atgtccgcca ccctctgctc tgccctgtac gtgggagatg tgtgcggcgc agtcatgata 480
gctgcacagg ctttcatcgt ggcaccgaag cgccattact tcgtccagga atgcaattgc 540
tccatataacc caggccacat tacaggtcat cgcatggcg 579

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Thr Cys Xaa Xaa Ala Asp Leu Met Gly Tyr Xaa Pro Val Val Gly Ala
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Pro Val Gly Gly Xaa Ala Arg Ala Leu Ala Xaa Gly Val Arg Val Leu
20 25 30

Glu Asp Gly Ile Asn Tyr Xaa Thr Gly Asn Leu Pro Gly Cys Ser Phe
35 40 45

Ser Ile Phe Xaa Leu Ala Leu Ser Cys Val Thr Val Pro Val Ser
50 55 60

Xaa Val Glu Val Lys Asn Thr Ser Gln Ala Tyr Met Ala Thr Asn Asp
65 70 75 80

Cys Ser Asn Asn Ser Ile Val Trp Gln Leu Xaa Asp Ala Val Leu His
85 90 95

Val Pro Gly Cys Val Pro Cys Glu Asn Ser Ser Gly Arg Phe His Cys
100 105 110

Trp Ile Pro Ile Ser Pro Asn Ile Ala Val Ser Lys Pro Gly Ala Leu
115 120 125

Thr Lys Gly Leu Arg Ala Arg Ile Asp Ala Val Val Met Ser Ala Thr
130 135 140

Leu Cys Ser Ala Leu Tyr Val Gly Asp Val Cys Gly Ala Val Met Ile
145 150 155 160

Ala Ala Gln Ala Phe Ile Val Ala Pro Lys Arg His Tyr Phe Val Gln
165 170 175

Glu Cys Asn Cys Ser Ile Tyr Pro Gly His Ile Thr Gly His Arg Met
180 185 190

Ala

<210> 17
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<213> hepatitis C virus

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ggccccaggt tgggtgtgcg cgcccaagg aagacttctg aacggtccc gacgtgg 180
aggcgccagc ccatccaaa agatcgccgc gccactggca agtcctgggg acgtccagga 240
tacccttggc ccctgtacgg gaacgagggc ctcggctggg cagggtggt cctgtcccc 300
cggggctctc gcccctcggt gggccaaac gaccccgac acaggtcacg caacttgggt 360

aaggcatcg ataccctcac gtgtggctt gscgaccta tgggtacat acctgtcg	420
ggcgccccgt tggcgccgt tgccagagcc ctgcgcgt gcgtgcgggt cctggaggac	480
gggataaatt atgcaacagg gaacttgccc gggtgctcct tttctatctt cttgtggct	540
ctcttgcctt gtatcaccgt gcccgtgtct gccatacagg ttaagaacaa cagccacttc	600
tacatggcga ctaatgactg tgccaatgac agcatcgct gcagctcag ggacgcgg	660
ctccatgttc ctggatgtgt cccctgtgag aggtcaggta ataggacctt ctgttggaca	720
gcggtctcgc ccaacgtggc tgtgagccga cctggtgctc tcactagagg tctgcgg	780
cacattgata ccatcgat gtccgccacc ctctgctctg ccctatacat agggaccta	840
tgccgcgtg tgatgatagc agcgcaagtt gccgtcgctc caccgcaata ccatacttt	900
gtccaggaat gcaactgctc catataccca ggccatatca caggacatcg aatggnn	957

<210> 18
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<220>
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Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn
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Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala

35

40

45

Pro Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Asp Arg Arg Ala Thr Gly Lys Ser Trp Gly Arg Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Leu Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Asn Asp Pro
100 105 110

Arg His Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys
115 120 125

Gly Phe Xaa Asp Leu Met Gly Tyr Ile Pro Val Val Gly Ala Pro Val
130 135 140

Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Val Leu Glu Asp
145 150 155 160

Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile
165 170 175

Phe Leu Leu Ala Leu Leu Ser Cys Ile Thr Val Pro Val Ser Ala Ile
180 185 190

Gln Val Lys Asn Asn Ser His Phe Tyr Met Ala Thr Asn Asp Cys Ala
195 200 205

Asn Asp Ser Ile Val Trp Gln Leu Arg Asp Ala Val Leu His Val Pro
210 215 220

Gly Cys Val Pro Cys Glu Arg Ser Gly Asn Arg Thr Phe Cys Trp Thr
225 230 235 240

Ala Val Ser Pro Asn Val Ala Val Ser Arg Pro Gly Ala Leu Thr Arg
245 250 255

Gly Leu Arg Ala His Ile Asp Thr Ile Val Met Ser Ala Thr Leu Cys
260 265 270

Ser Ala Leu Tyr Ile Gly Asp Leu Cys Gly Ala Val Met Ile Ala Ala
275 280 285

Gln Val Ala Val Val Ser Pro Gln Tyr His Thr Phe Val Gln Glu Cys
290 295 300

Asn Cys Ser Ile Tyr Pro Gly His Ile Thr Gly His Arg Met Xaa
305 310 315

<210> 19
<211> 447
<212> DNA
<213> hepatitis C virus

<400> 19
gacgggttaa attatgcaac aggaaatctg cctgggtgct ctttctctat cttcttggtg 60
gctcttctgt cttgtgtcac cgtgcctgtc tctgccgtgc aggttaagaa caccagtacc 120
atgtacatgg caaccaatga ctgttccaac aacagcatca tctggcaaatt gcagggcg 180
gtgcttcatg ttcctggatg tgtccctgtg gagttgcagg gcaataagtc ccgggtgctgg 240
ataccggtca ctcccaacgt ggctgtgaac cagcccgcg ccctcaactag gggcttgcgg 300
acgcacattt acaccatcgt gatggtcgct acgctctgtt ctgcactcta catcggggac 360
gtgtgtggcg cggtgatgat agctgctcag gttgtcattt tctcgccgca acatcacaac 420
ttttcccaagg attgcaattt tttccatc 447

<210> 20
<211> 149
<212> PRT
<213> hepatitis C virus

<400> 20
Asp Gly Val Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser
1 5 10 15

Ile Phe Leu Leu Ala Leu Leu Ser Cys Val Thr Val Pro Val Ser Ala

20

25

30

Val Gln Val Lys Asn Thr Ser Thr Met Tyr Met Ala Thr Asn Asp Cys
35 40 45

Ser Asn Asn Ser Ile Ile Trp Gln Met Gln Gly Ala Val Leu His Val
50 55 60

Pro Gly Cys Val Pro Cys Glu Leu Gln Gly Asn Lys Ser Arg Cys Trp
65 70 75 80

Ile Pro Val Thr Pro Asn Val Ala Val Asn Gln Pro Gly Ala Leu Thr
85 90 95

Arg Gly Leu Arg Thr His Ile Asp Thr Ile Val Met Val Ala Thr Leu
100 105 110

Cys Ser Ala Leu Tyr Ile Gly Asp Val Cys Gly Ala Val Met Ile Ala
115 120 125

Ala Gln Val Val Ile Val Ser Pro Gln His His Asn Phe Ser Gln Asp
130 135 140

Cys Asn Cys Ser Ile
145

<210> 21
<211> 310
<212> DNA
<213> hepatitis C virus

<400> 21
atgagcacaa atcctaaacc tcaaagaaaa accaaaagaa acactaaccg ccgcccacag 60
gacgttaagt tcccgccgg tggccagatc gttggcggag tatacttgg tccgcgcagg 120
ggcccccggt tgggtgtgcg cgacgaggaaaacttccg aacggtccca gccacgtggg 180
aggcgccagc ccatccctaa agatcggcgc tccactggca aatcctgggg acgtccagga 240
tacccttggc ccctgtatgg gaacgaggc cttgggg caggatggct cttgtcccct 300
cgaggctctc 310

<210> 22
<211> 48
<212> PRT
<213> hepatitis C virus

<400> 22

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Arg Ser Leu Ala
20 25 30

Glu Tyr Thr Cys Ala Arg Arg Gly Lys Leu Arg Arg Ser Ser Met Gly
35 40 45

<210> 23
<211> 447
<212> DNA
<213> hepatitis C virus

<400> 23

gacgggataa actacgcaac aggaaatctg cccgggtgct cctttctat cttcttgctg 60
gccttgctat cctgtctcac tgtgccggcg tccgctgtgc aggtcaagaa caccagccac 120
tcttatatgg tgaccaatga ttgctcaaac agcagcattt tctggcagct taaggatgct 180
gtgcttcacg tccctggatg tggccatgt gagaggcacc aaaatcagtc tcgctgctgg 240
atacctgtga caccatgtt gcccgtgagc caacctggcg cgctcaccag gggtttgcgg 300
acgcacattt acaccatcgt tgcgtctgct accgtctgct cagctttgtt tggggcgac 360
ttctgcggcg cagtgtatgtt ggtctctcaa tttttcatga tctccctca gcaccacatc 420
ttcgtccagg attgcaactg ctcgata 447

<210> 24
<211> 149
<212> PRT
<213> hepatitis C virus

<400> 24

Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser
1 5 10 15

Ile Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser Ala
20 25 30

Val Gln Val Lys Asn Thr Ser His Ser Tyr Met Val Thr Asn Asp Cys
35 40 45

Ser Asn Ser Ser Ile Val Trp Gln Leu Lys Asp Ala Val Leu His Val
50 55 60

Pro Gly Cys Val Pro Cys Glu Arg His Gln Asn Gln Ser Arg Cys Trp
65 70 75 80

Ile Pro Val Thr Pro Asn Val Ala Val Ser Gln Pro Gly Ala Leu Thr
85 90 95

Arg Gly Leu Arg Thr His Ile Asp Thr Ile Val Ala Ser Ala Thr Val
100 105 110

Cys Ser Ala Leu Tyr Val Gly Asp Phe Cys Gly Ala Val Met Leu Val
115 120 125

Ser Gln Phe Phe Met Ile Ser Pro Gln His His Ile Phe Val Gln Asp
130 135 140

Cys Asn Cys Ser Ile
145

<210> 25
<211> 356
<212> DNA
<213> hepatitis C virus

<400> 25
gacgggataa actatgcaac agggAACCTG CCTGGTTGCT CCTTTCTAT CTTCTTACTG 60

gccctgctt ctgcacatc cgtgccgtc tctgccgtgc aagttgcgaa ccgcagtggt 120
tcttacatgg tgaccaatga ttgctcgaac agcagcatcg tttggcagct cgaggaggcc 180
gtccttcacg tccctggatg tgttccctgt gagtggaaagg acaacacacctc ccgctgctgg 240
ataccggtca cccctaacat cgctgtgagc caacctggcg cgcttaccaa gggcctgcgg 300
acacatattg acatcattgt cgcgccgtcc acgttctgtc ctgccttgta tgtggg 356

<210> 26
<211> 118
<212> PRT
<213> hepatitis C virus

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<220>
<221> MISC_FEATURE
<222> (95)..(95)
<223> Xaa represents any amino acid
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<400> 26

Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser
1 5 10 15

Ile Phe Leu Leu Ala Leu Leu Ser Cys Ile Thr Val Val Pro Val Ser Ala
20 25 30

Val Gln Val Ala Asn Arg Ser Gly Ser Tyr Met Val Thr Asn Asp Cys
35 40 45

Ser Asn Ser Ser Ile Val Trp Gln Leu Glu Glu Ala Val Leu His Val
50 55 60

Pro Gly Cys Val Pro Cys Glu Trp Lys Asp Asn Thr Ser Arg Cys Trp
 65 70 75 80

Ile Pro Val Thr Pro Asn Ile Ala Val Ser Gln Pro Gly Ala Xaa Thr
 85 89 95

Lys Gly Leu Arg Thr His Ile Asp Ile Ile Val Ala Ser Ala Thr Phe
 100 105 110

Cys Ser Ala Leu Tyr Val
115

<210> 27
<211> 310
<212> DNA
<213> hepatitis C virus

<220>
<221> misc_feature
<222> (283)..(284)
<223> n represents any nucleotide

<400> 27
atgagcacga atcctaaacc tcaaagaaaa accaaacgta acaccaacccg ccgccccatg 60
gacgttaagt tcccggttgg tggccagatc gttggcggag tttacttggt gccgcgcagg 120
ggccccaggt tgggtgtgcg cgcgactcgg aagacttcgg agcggtcgca acctcgtggg 180
agacgccaac ctatccccaa ggcgcgtcga tccgagggaa ggtcctgggc acagccagga 240
tatccatggc ctctttacgg taatgagggt tgcgggtggg cannatggct cttgtcccc 300
cgcggttctc 310

<210> 28
<211> 117
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (95)..(95)
<223> Xaa represents any amino acid

<400> 28

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn
1 5 10 15

Arg Arg Pro Met Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly

20

25

30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Ala Arg Arg Ser Glu Gly Arg Ser Trp Ala Gln Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Xaa Trp
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Asn Asp Pro
100 105 110

Arg Arg Arg Ser Arg
115

<210> 29
<211> 447
<212> DNA
<213> hepatitis C virus

<400> 29
gacgggatca attttgcAAC agggAACCTC cccggTTGCT cctttctat ctccctcttg 60
gcactcctct cgtgcctgac tgtccccgt tcggccatca actatcgcaa tgtctcgggc 120
atttactatg tcaccaatga ttgcccgaat tcaagcatacg tgtatgaggc cgaccatcac 180
atcttgcacc tcccaggTTG cgtgcctgc gtgagagagg ggaatcagtc acgttgcTgg 240
gtagccctta cccctaccgt cgcaGcgcca tacatcgGcg cgccacttga gtctctacgg 300
agtcatgtgg acttgatggt gggggccgccc actgtttgtt cagcccttta catcggggat 360
ttrtgtgggg gcttgttcct agtcggtcag atgttcttt tccgaccaag gcccactgg 420
actactcaag attgcaatttgc ttccatc 447

<210> 30
<211> 149

<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (121)..(121)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE
<222> (123)..(123)
<223> Xaa represents any amino acid

<400> 30

Asp Gly Ile Asn Phe Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser
1 5 10 15

Ile Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser Ala
20 25 30

Ile Asn Tyr Arg Asn Val Ser Gly Ile Tyr Tyr Val Thr Asn Asp Cys
35 40 45

Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp His His Ile Leu His Leu
50 55 60

Pro Gly Cys Val Pro Cys Val Arg Glu Gly Asn Gln Ser Arg Cys Trp
65 70 75 80

Val Ala Leu Thr Pro Thr Val Ala Ala Pro Tyr Ile Gly Ala Pro Leu
85 90 95

Glu Ser Leu Arg Ser His Val Asp Leu Met Val Gly Ala Ala Thr Val
100 105 110

Cys Ser Ala Leu Tyr Ile Gly Asp Xaa Cys Xaa Gly Leu Phe Leu Val
115 120 125

Gly Gln Met Phe Ser Phe Arg Pro Arg Arg His Trp Thr Thr Gln Asp
130 135 140

Cys Asn Cys Ser Ile

145

<210> 31
<211> 447
<212> DNA
<213> hepatitis C virus

<400> 31
gacgggatca attatgcaac aggaaacctt cccgggtgct cttttctat cttcctcttg 60
gcactcctct cgtgcctgac tggcccgct tcggccatta actaccgcaa cacctcgccc 120
atctaccacg tcaccaatga ctgcccgaac tcgagcatag tttatgaggc cgaccaccac 180
atcttgcacc ttccaggttg cgtgcctgc gtgagaactg ggaatcagtc acgttgctgg 240
gtggccctta ctcctaccgt cgcaagcgcca tacatcgccg caccgcttga gtctctgcgg 300
agtcatgtgg atctgatggt gggggctgcc actgtttgct cagccctta catcgggat 360
ttgtgtggcg gcttgttctt ggttggtcag atgtttctt tccgaccacg acgccactgg 420
actgcccagg attgcaattg ttctatc 447

<210> 32
<211> 149
<212> PRT
<213> hepatitis C virus

<400> 32

Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser
1 5 10 15

Ile Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser Ala
20 25 30

Ile Asn Tyr Arg Asn Thr Ser Gly Ile Tyr His Val Thr Asn Asp Cys
35 40 45

Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp His His Ile Leu His Leu
50 55 60

Pro Gly Cys Val Pro Cys Val Arg Thr Gly Asn Gln Ser Arg Cys Trp
65 70 75 80

Val Ala Leu Thr Pro Thr Val Ala Ala Pro Tyr Ile Gly Ala Pro Leu
85 90 95

Glu Ser Leu Arg Ser His Val Asp Leu Met Val Gly Ala Ala Thr Val
100 105 110

Cys Ser Ala Leu Tyr Ile Gly Asp Leu Cys Gly Gly Leu Phe Leu Val
115 120 125

Gly Gln Met Phe Ser Phe Arg Pro Arg Arg His Trp Thr Ala Gln Asp
130 135 140

Cys Asn Cys Ser Ile
145

<210> 33
<211> 447
<212> DNA
<213> hepatitis C virus

<400> 33
gacgggatta attatgcaac aggaaatctt cccgggtgct cctttctat ctcccttttg 60
gcacttctct cgtgcctgac tgtcccgct tcggccatta actaccacaa cacctcgccc 120
atctatcata tcaccaacga ctgcccgaat tcaagcatag tgtatgagggc cgaccatcac 180
atcttgcata tcccaggttg cgtgcctgc gtgagagtgg ggaatcagtc gagttgctgg 240
gtggccctta cccctaccat cgagcgcca tacatggcg caccgcttga gtccttgcgg 300
agtcatgtgg atctgatggc gggggcggcc actgtctgtt cagcccttta catcggggat 360
tttgtggcg gtgcgttctt gttggtcag atgttcttttccgaccacg gcccactgg 420
accacccaag attgcaactg ctccatc 447

<210> 34
<211> 149
<212> PRT

<213> hepatitis C virus

<400> 34

Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser
1 5 10 15

Ile Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser Ala
20 25 30

Ile Asn Tyr His Asn Thr Ser Gly Ile Tyr His Ile Thr Asn Asp Cys
35 40 45

Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp His His Ile Leu His Leu
50 55 60

Pro Gly Cys Val Pro Cys Val Arg Val Gly Asn Gln Ser Ser Cys Trp
65 70 75 80

Val Ala Leu Thr Pro Thr Ile Ala Ala Pro Tyr Ile Gly Ala Pro Leu
85 90 95

Glu Ser Leu Arg Ser His Val Asp Leu Met Val Gly Ala Ala Thr Val
100 105 110

Cys Ser Ala Leu Tyr Ile Gly Asp Leu Cys Gly Gly Ala Phe Leu Val
115 120 125

Gly Gln Met Phe Ser Phe Arg Pro Arg Arg His Trp Thr Thr Gln Asp
130 135 140

Cys Asn Cys Ser Ile
145

<210> 35

<211> 447

<212> DNA

<213> hepatitis C virus

<400> 35

gacgggatca attatgcaac aggaaatatt cccgggtgct cyttttctat cttcccttytg	60
gcacttctct cgtgtctgac tgtccccgt tcggccacta actatcgcaa cgtctcgccc	120
atctaccatg tcaccaatga ctgcccgaat tcaagcatag tgtatgaggc cgaccatcac	180
atcttagcac ttccaggttg cgtgccctgc gtgagagtgg ggaaccagtc acgctgctgg	240
gtggccctta cccctaccgt cgcaagcgcca tacaccgcgg cgccgcttga gtccctgcgg	300
agtcatgtgg atctgatggt gggagctgcc actgtttgtt cagcccttta catcggggay	360
tttgtgtggcg gcttgttctt ggttggtcag atgttctctt tycagcctcg gcccactgg	420
actaccagg attgcaattt ttccatc	447

<210> 36
<211> 149
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (14)..(14)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE
<222> (20)..(20)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE
<222> (120)..(120)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE
<222> (134)..(134)
<223> Xaa represents any amino acid

<400> 36

Asp Gly Ile Asn Tyr Ala Thr Gly Asn Ile Pro Gly Cys Xaa Phe Ser

1

5

10

15

Ile Phe Leu Xaa Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser Ala
20 25 30

Thr Asn Tyr Arg Asn Val Ser Gly Ile Tyr His Val Thr Asn Asp Cys
35 40 45

Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp His His Ile Leu Ala Leu
50 55 60

Pro Gly Cys Val Pro Cys Val Arg Val Gly Asn Gln Ser Arg Cys Trp
65 70 75 80

Val Ala Leu Thr Pro Thr Val Ala Ala Pro Tyr Thr Ala Ala Pro Leu
85 90 95

Glu Ser Leu Arg Ser His Val Asp Leu Met Val Gly Ala Ala Thr Val
100 105 110

Cys Ser Ala Leu Tyr Ile Gly Xaa Leu Cys Gly Gly Leu Phe Leu Val
115 120 125

Gly Gln Met Phe Ser Xaa Gln Pro Arg Arg His Trp Thr Thr Gln Asp
130 135 140

Cys Asn Cys Ser Ile
145

<210> 37
<211> 447
<212> DNA
<213> hepatitis C virus

<400> 37
gacgggattta attatgcaac agggaaayctc cccgggttgct ctttttctat cttcctcttg 60
gcacttctct cgtgcctgac tgtccccgct tcggccacca actaccgcaa tgtctcgggc 120
atttaccatg tcaccaatga ctgccccaat tcaagcatacg tgtttgaggc cgaccatcac 180
atcttgcacc ttccaggatg cgtgccctgc gtgaaagagg gaaatcattc acgctgctgg 240

gtggccctta cccctaccgt cgcagcgcca tacatggcg cgccacttga gtctctacgg	300
agtcatgtgg atgtgatggc gggggctgcc actgtttgtt cagcccttta catcgggat	360
ctgtgcggtg gcttgttcct gttggtcag atgttcttt tccgaccacg gcccactgg	420
actacccagg aatgcaattt ttccatc	447

<210> 38
<211> 149
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> Xaa represents any amino acid

<400> 38

Asp	Gly	Ile	Asn	Tyr	Ala	Thr	Gly	Xaa	Leu	Pro	Gly	Cys	Ser	Phe	Ser
1									10					15	

Ile	Phe	Leu	Leu	Ala	Leu	Leu	Ser	Cys	Leu	Thr	Val	Pro	Ala	Ser	Ala
								20		25			30		

Thr	Asn	Tyr	Arg	Asn	Val	Ser	Gly	Ile	Tyr	His	Val	Thr	Asn	Asp	Cys
								35		40			45		

Pro	Asn	Ser	Ser	Ile	Val	Phe	Glu	Ala	Asp	His	His	Ile	Leu	His	Leu
						50		55				60			

Pro	Gly	Cys	Val	Pro	Cys	Val	Lys	Glu	Gly	Asn	His	Ser	Arg	Cys	Trp
							65		70			75		80	

Val	Ala	Leu	Thr	Pro	Thr	Val	Ala	Ala	Pro	Tyr	Ile	Gly	Ala	Pro	Leu
									85		90			95	

Glu	Ser	Leu	Arg	Ser	His	Val	Asp	Val	Met	Val	Gly	Ala	Ala	Thr	Val
									100		105			110	

Cys	Ser	Ala	Leu	Tyr	Ile	Gly	Asp	Leu	Cys	Gly	Gly	Leu	Phe	Leu	Val
									115		120		125		

Gly Gln Met Phe Ser Phe Arg Pro Arg Arg His Trp Thr Thr Gln Glu
130 135 140

Cys Asn Cys Ser Ile
145

<210> 39
<211> 447
<212> DNA
<213> hepatitis C virus

<400> 39
gacgggatca attatgcaac aggaaacctc cccgggtgct ctttctctat cttcatcctg 60
gcacttctct cgtgcctgac tgtccggcc tcggctcagc attatcgaa tgtctcggc 120
atttaccacg tcaccaacga ctgcccgaac tccagcatag tgtatgagtc cgaccatcac 180
atcttacacc taccagggtg tgtaccctgt gtgaagactg ggaacacttc ggcgtctgg 240
gtggccttaa cacctaccgt ggcgcgccc atacttcgg ctccacttat gtccgtacgg 300
cggcatgtgg atctgatggc ggggcagact accctatcgt ctgcctcta cggtggagac 360
ctctgcgggg gtgccttcct agtggggcag atgttacact tccagccgct tcgcccactgg 420
actgtccaag actgcaactg ttccatc 447

<210> 40
<211> 149
<212> PRT
<213> hepatitis C virus

<400> 40

Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser
1 5 10 15

Ile Phe Ile Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser Ala
20 25 30

Gln His Tyr Arg Asn Val Ser Gly Ile Tyr His Val Thr Asn Asp Cys

35

40

45

Pro Asn Ser Ser Ile Val Tyr Glu Ser Asp His His Ile Leu His Leu
50 55 60

Pro Gly Cys Val Pro Cys Val Lys Thr Gly Asn Thr Ser Arg Cys Trp
65 70 75 80

Val Ala Leu Thr Pro Thr Val Ala Ala Pro Ile Leu Ser Ala Pro Leu
85 90 95

Met Ser Val Arg Arg His Val Asp Leu Met Val Gly Ala Ala Thr Leu
100 105 110

Ser Ser Ala Leu Tyr Val Gly Asp Leu Cys Gly Gly Ala Phe Leu Val
115 120 125

Gly Gln Met Phe Thr Phe Gln Pro Arg Arg His Trp Thr Val Gln Asp
130 135 140

Cys Asn Cys Ser Ile
145

<210> 41
<211> 957
<212> DNA
<213> hepatitis C virus

<220>
<221> misc_feature
<222> (383)..(383)
<223> n represents any nucleotide

<220>
<221> misc_feature
<222> (924)..(924)
<223> n represents any nucleotide

<220>
<221> misc_feature
<222> (387)..(387)
<223> n represents any nucleotide

<220>
<221> misc_feature
<222> (928)..(928)
<223> n represents any nucleotide

<400> 41
atgagcacac ttccaaaacc ccaaagaaaa accaaaagaa atactaaccg tcgcccstatg 60
gacgtcaagt tcccggcg cgccagatc gttggtggag tttacttgtt gccgcgcagg 120
ggccctcggt tgggtgtcg cgccgacgaga aagaccccg aacggtccc gcctagaggc 180
aggcgccagc ccataccaaa ggtacgcccag ccgacaggcc gtagctgggg tcaacccggc 240
tacccttggc cccttatgg caacgagggc tgccgatggg cggatggct cctgtccccc 300
cgccggtctc gtcctaattg gggcccaac gaccccccgc gaaggtccc caacttgggt 360
aaggcatcg atacccttac atncggncata gccgacctca tgggtacat ccctgtccta 420
ggagggccgc ttggcggcgt tgcggctgcc ctggcgcatg gcgttagggc aatcgaggac 480
gggtcaatt acgcaacagg gaatcttcct ggttgctcct tttctatctt cctcttagca 540
ctgttatcgt gcctcaactac accagcctca gcaattcaag tcaagaacgc ctctggatc 600
taccatctta ccaatgactg ctcgaacaac agcatcgaaa ttgaggcggg gaccatgata 660
ctgcatttc caggttgtgt cccatgtatc aaggcgggga atgagtacg atgttggctc 720
cctgtctccc ccaccttagc cgtcccaac tcatcagtgc caatccacgg gtttcggcga 780
cacgttagacc tcctcggtgg ggcagcggca ttttggcgg ccatgtacat cggagacctc 840
tgtggtagca taatcttggt agggcagctt tttactttca ggcctaagta ccatcagggtt 900
accaggatt gtaactgctc tatnaacnct ggccacgtca cgggacacag gatggca 957

<210> 42
<211> 319
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (128)..(129)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE
<222> (308)..(308)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE
<222> (310)..(310)
<223> Xaa represents any amino acid

<400> 42

Met Ser Thr Leu Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn
1 5 10 15

Arg Arg Pro Met Asp Val Lys Phe Pro Gly Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Val Arg Gln Pro Thr Gly Arg Ser Trp Gly Gln Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Asn Trp Gly Pro Asn Asp Pro
100 105 110

Arg Arg Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Xaa
115 120 125

Xaa Leu Ala Asp Leu Met Gly Tyr Ile Pro Val Leu Gly Gly Pro Leu
130 135 140

Gly Gly Val Ala Ala Ala Leu Ala His Gly Val Arg Ala Ile Glu Asp

145

150

155

160

Gly Val Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile
165 170 175

Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Thr Pro Ala Ser Ala Ile
180 185 190

Gln Val Lys Asn Ala Ser Gly Ile Tyr His Leu Thr Asn Asp Cys Ser
195 200 205

Asn Asn Ser Ile Val Phe Glu Ala Glu Thr Met Ile Leu His Leu Pro
210 215 220

Gly Cys Val Pro Cys Ile Lys Ala Gly Asn Glu Ser Arg Cys Trp Leu
225 230 235 240

Pro Val Ser Pro Thr Leu Ala Val Pro Asn Ser Ser Val Pro Ile His
245 250 255

Gly Phe Arg Arg His Val Asp Leu Leu Val Gly Ala Ala Ala Phe Cys
260 265 270

Ser Ala Met Tyr Ile Gly Asp Leu Cys Gly Ser Ile Ile Leu Val Gly
275 280 285

Gln Leu Phe Thr Phe Arg Pro Lys Tyr His Gln Val Thr Gln Asp Cys
290 295 300

Asn Cys Ser Xaa Asn Xaa Gly His Val Thr Gly His Arg Met Ala
305 310 315

<210> 43
<211> 957
<212> DNA
<213> hepatitis C virus

<220>
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<222> (446)..(446)
<223> n represents any nucleotide

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<223> n represents any nucleotide

<400> 43
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gacgtcaagt tccccgggtgg cggccagatc gttgggtggag tctacttgct gccgcgcagg 120
ggcccgcgct tgggtgtgcg cgcgacgaga aagacttctg aacggtccca gcccagaggt 180

aggcgccaaac caataccaa agtgcgccac caaacgggcc gtacctggc ccagcccg	240
tacccctggc ctcttatgg aaatgagggc tgtggttggg caggctggct cctgtcccc	300
cgccggctctc gcccaaattg gggcccaaac gaccccccggc ggaggtcccg caacttgggt	360
aaagtcatcg acacccttac ttgcggcttc gccgaccta tgggtatat ccctgtcgta	420
ggcgctccgw tgggaggcgt cgccggngcc ttggcgcatg ggtcanggn catcgaggac	480
ggngtaaatt acgcaacagn gaatcttccc ggnngctctn tctctatctt nctcttggca	540
cttctctcgt gccttacaac accagcctcc gcggcgcatt ataccaacaa gtctggcctg	600
taccatctca ccaacgactg ccccaacagc agcatcgaaa atgaggcggg gacactgatt	660
ttgcacttgc ctgggtgtgt accttgtgtg aagrtgraca atcaatcccg gtgctgggtg	720
caggcctccc cgaccctggc agtgcgaac gcgtctacgc cagtcaccgg gttccgaaa	780
catgtggaca tcatggtggg cgctgcccg ttctgttcag ctatgtatgt gggggacctg	840
tgccccccccc tttcctcgt tggacagctc ttcacgctca ggcctcggat gcatcaggaa	900
gtccaggagt gtaactgttc catctacaca gggcatatca ctggacacccg aatggca	957

<210> 44
<211> 319
<212> PRT
<213> hepatitis C virus

<220>
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<223> Xaa represents any amino acid

<220>
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<222> (149)..(149)
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<220>
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<220>
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<222> (161)..(161)
<223> Xaa represents any amino acid

<220>
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<223> Xaa represents any amino acid

<220>
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<223> Xaa represents any amino acid

<220>
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<222> (232)..(233)
<223> Xaa represents any amino acid

<220>
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<222> (177)..(177)
<223> Xaa represents any amino acid

<400> 44

Met Ser Thr Leu Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Ile
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Val Arg His Gln Thr Gly Arg Thr Trp Ala Gln Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Asn Trp Gly Pro Asn Asp Pro
100 105 110

Arg Arg Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Val Val Gly Ala Pro Xaa
130 135 140

Gly Gly Val Ala Xaa Ala Leu Ala His Gly Val Xaa Xaa Ile Glu Asp
145 150 155 160

Xaa Val Asn Tyr Ala Thr Xaa Asn Leu Pro Xaa Xaa Ser Xaa Ser Ile
165 170 175

Xaa Leu Leu Ala Leu Leu Ser Cys Leu Thr Thr Pro Ala Ser Ala Ala
180 185 190

His Tyr Thr Asn Lys Ser Gly Leu Tyr His Leu Thr Asn Asp Cys Pro
195 200 205

Asn Ser Ser Ile Val Tyr Glu Ala Glu Thr Leu Ile Leu His Leu Pro
210 215 220 240

Gly Cys Val Pro Cys Val Lys Xaa Xaa Asn Gln Ser Arg Cys Trp Val
225 230 235 240

Gln Ala Ser Pro Thr Leu Ala Val Pro Asn Ala Ser Thr Pro Val Thr
245 250 255

Gly Phe Arg Lys His Val Asp Ile Met Val Gly Ala Ala Ala Phe Cys
260 265 270

Ser Ala Met Tyr Val Gly Asp Leu Cys Gly Gly Leu Phe Leu Val Gly

275

280

285

Gln Leu Phe Thr Leu Arg Pro Arg Met His Gln Val Val Gln Glu Cys
290 295 300

Asn Cys Ser Ile Tyr Thr Gly His Ile Thr Gly His Arg Met Ala
305 310 315

<210> 45
<211> 413
<212> DNA
<213> hepatitis C virus

<220>
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<223> n represents nucleotide

<220>
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<222> (340)..(340)
<223> n represents nucleotide

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<222> (384)..(384)
<223> n represents nucleotide

<400> 45
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gacgtcaagt tcccgggtgg cggtcagatc gttgggtggag tttacttggt gccgcgcagg 120
ggccctcggt tgggtgtgcg cgcgacgagg aaaacttctg aacggtcccc gcccagggg 180
agacgccaac ctataccgaa ggtgcgtcac caaacgggcc gtacctgggc tcaacccggg 240
tacccctggc ctctttatgg gaatgagggt tgtggctggg cagggtggt cctgtcccc 300
cncggctctc gccctaattt gggccctaattt gaccccccgg gtaggtcccc caacctgggt 360
aaggtcatcg atacccttac ttgngggttc gcccacccca tagagtacat tcc 413

<210> 46
<211> 137
<212> PRT
<213> hepatitis C virus

<220>
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<222> (101)..(101)
<223> Xaa represents any amino acid

<220>
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<222> (114)..(114)
<223> Xaa represents any amino acid

<220>
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<222> (128)..(129)
<223> Xaa represents any amino acid

<400> 46

Met Ser Thr Leu Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Val Arg His Gln Thr Gly Arg Thr Trp Ala Gln Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro Xaa Gly Ser Arg Pro Asn Trp Gly Pro Asn Asp Pro

100

105

110

Arg Xaa Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Xaa
115 120 125

Xaa Phe Ala Asp Leu Ile Glu Tyr Ile
130 135

<210> 47
<211> 957
<212> DNA
<213> hepatitis C virus

<220>
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<222> (324)..(324)
<223> n represents any nucleotide

<220>
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<222> (340)..(340)
<223> n represents any nucleotide

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<222> (455)..(455)
<223> n represents any nucleotide

<400> 47
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ggcccacgtt tgggtgtcg cgcgacgagg aagacttcgg aacggtcccc ggccagaggt 180
aggcgccaac caataccaa ggtgcgccag aaccaaggcc gaacctgggc tcagcctggg 240
tacccctggc cccttatgg gaacgagggc tgcggctggg cgggtggct cttgtcccc 300
cgtggcttc gcccggactg gggncccaat gaccccccgn ggaggtcccc caacctgggt 360
aaggtcatcg acaccctcac ttgcggcttc gccgaccta tggagtacat ccctgtcggt 420
ggcgccccc ttggaggcgt tgccggcggaa ctggncatg gtgtcagggc catcgaggac 480

gggataaaact atgcaacagg gaatcttcctt gggtgcttt tctctatctt ccwcttggca	540
cttctctcgt gcctcaccac gcctgcctcc gcactaaact atgctaacaa gtctggcgt	600
tatcatctaa ccaatgactg ccccaatagc agcattgtgt atgaggcgaa tggcatgatc	660
ctgcacatctcc cgggttgcgt cccctgcgtg aagaccggca acctgaccaa gtgttggctg	720
tcggcctccc cgacattggc ggtgcagaat gcgtcggtgt ccatcagggg tgtccgcgag	780
cacgtggacc tcttggtggg tgctgctgcg ttctgctctg ccatgtacgt gggcgactta	840
tgccgtgggc tctttctcgt tggcagttt ttcacgttca gacccaggat gtatgagatc	900
gcccaggact gcaactgttc catctatgca ggccacatca ctgggcaccc gatggcg	957

<210> 48
<211> 319
<212> PRT
<213> hepatitis C virus

<220>
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<222> (108)..(108)
<223> Xaa represents any amino acid

<220>
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<223> Xaa represents any amino acid

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<223> Xaa represents any amino acid

<220>
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<223> Xaa represents any amino acid

Met Ser Thr Leu Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn
1 5 10 15

Arg Arg Pro Met Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Ala Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Val Arg Gln Asn Gln Gly Arg Thr Trp Ala Gln Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Asp Trp Xaa Pro Asn Asp Pro
100 105 110

Arg Xaa Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys
115 120 125

Gly Phe Ala Asp Leu Met Glu Tyr Ile Pro Val Val Gly Ala Pro Leu
130 135 140

Gly Gly Val Ala Ala Glu Leu Xaa His Gly Val Arg Ala Ile Glu Asp
145 150 155 160

Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile
165 170 175

Phe Xaa Leu Ala Leu Leu Ser Cys Leu Thr Thr Pro Ala Ser Ala Leu
180 185 190

Asn Tyr Ala Asn Lys Ser Gly Leu Tyr His Leu Thr Asn Asp Cys Pro
195 200 205

Asn Ser Ser Ile Val Tyr Glu Ala Asn Gly Met Ile Leu His Leu Pro
210 215 220

Gly Cys Val Pro Cys Val Lys Thr Gly Asn Leu Thr Lys Cys Trp Leu

225 230 235 240

Ser Ala Ser Pro Thr Leu Ala Val Gln Asn Ala Ser Val Ser Ile Arg
245 250 255

Gly Val Arg Glu His Val Asp Leu Leu Val Gly Ala Ala Ala Phe Cys
260 265 270

Ser Ala Met Tyr Val Gly Asp Leu Cys Gly Gly Leu Phe Leu Val Gly
275 280 285

Gln Leu Phe Thr Phe Arg Pro Arg Met Tyr Glu Ile Ala Gln Asp Cys
290 295 300

Asn Cys Ser Ile Tyr Ala Gly His Ile Thr Gly His Arg Met Ala
305 310 315

<210> 49
<211> 309
<212> DNA
<213> hepatitis C virus

<400> 49
atgagcacac ttcctaaacc acaaagaaaa accaaaagaa acaccaaccc cggccacagg 60
acgttaagtt cccagggggc ggtcagatcg ttgggtggagt ttacgtgcta ccacgcaggg 120
gccccccagtt gggtgtgcgt gcagtgcgca agacttccga gcggtcgcaa cctcgcagta 180
ggcgccaaacc catccccagg gcgcgccgaa ccgagggcag gtcctgggct cagcccggt 240
acccttggcc cctatatggg aatgagggct gcgggtgggc agggtgtggctc ctgtccccgc 300
gcggctctc 309

<210> 50
<211> 115
<212> PRT
<213> hepatitis C virus

<220>
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<222> (17)..(17)
<223> Xaa represents any amino acid

<400> 50

Met Ser Thr Leu Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn
1 5 10 15

Xaa Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Val Leu Pro Arg Arg Gly Pro Gln Leu Gly Val Arg Ala
35 40 45

Val Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Ser Arg Arg Gln Pro
50 55 60

Ile Pro Arg Ala Arg Arg Thr Glu Gly Arg Ser Trp Ala Gln Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Asn Asp Pro
100 105 110

Arg Arg Arg
115

<210> 51

<211> 447

<212> DNA

<213> hepatitis C virus

<400> 51

gacggaatta atttcgcaac aggaaattta cctgggtgct ctttctctat cttccttctg 60

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ctctacatgg taactaacga ctgcagtaac ggtagtatcg tgtatgaggc cggggatatt 180

atcctccact tacctggctg tgtcccctgc gtacgctctg gcaatacatc aagatgctgg 240

atccctgtga gccccyaccgt cgccgtgaag tcgcccgtcg cgccaccgc ctctctccgc	300
acgcacgtgg atatgatggt gggrrgcggcc accctatgct cagctctcta cgtaggagac	360
ctttgtggag cgctatttct tgyyggcag gggttctcat ggagacatcg ccagcattgg	420
actgtccagg actgcaactg ttccatc	447

<210> 52
<211> 149
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (82)..(85)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE
<222> (108)..(108)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE
<222> (128)..(128)
<223> Xaa represents any amino acid

<400> 52

Asp Gly Ile Asn Phe Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser
1 5 10 15

Ile Phe Leu Leu Ala Leu Phe Ser Cys Leu Leu Thr Pro Thr Ala Gly
20 25 30

Leu Glu Tyr Arg Asn Ala Ser Gly Leu Tyr Met Val Thr Asn Asp Cys
35 40 45

Ser Asn Gly Ser Ile Val Tyr Glu Ala Gly Asp Ile Ile Leu His Leu
50 55 60

Pro Gly Cys Val Pro Cys Val Arg Ser Gly Asn Thr Ser Arg Cys Trp
65 70 75 80

Ile Pro Val Ser Xaa Thr Val Ala Val Lys Ser Pro Cys Ala Ala Thr
85 90 95

Ala Ser Leu Arg Thr His Val Asp Met Met Val Xaa Ala Ala Thr Leu
100 105 110

Cys Ser Ala Leu Tyr Val Gly Asp Leu Cys Gly Ala Leu Phe Leu Xaa
115 120 125

Gly Gln Gly Phe Ser Trp Arg His Arg Gln His Trp Thr Val Gln Asp
130 135 140

Cys Asn Cys Ser Ile
145

<210> 53
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 53
ctcgacagtt actgagaatg acatccgtgt cgaggaatca atataccaat gttgtgactt 60
ggcccccggag gctcgcaagg ccataaagtc gtcaccgag cggctgtaca tcgggggccc 120
yctaaccaat tcaaaaggac agaactgcgg ctaccgtcgg tgccgcgcca gcggcgtgct 180
gactaccagc tgcggcaaca ccctgacatg ctacttgaaa gccagagcgg cctgtcgagc 240
tgcaaagctc cgggactgca ccatgctcgt gtgcgggat gaccttgcg ttatctgtga 300
gagtgcggga gtcgaggaag acgcggcgaa cctacgagct 340

<210> 54
<211> 113
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (40)..(40)
<223> Xaa represents any amino acid

<400> 54

Ser Thr Val Thr Glu Asn Asp Ile Arg Val Glu Glu Ser Ile Tyr Gln
1 5 10 15

Cys Cys Asp Leu Ala Pro Glu Ala Arg Lys Ala Ile Lys Ser Leu Thr
20 25 30

Glu Arg Leu Tyr Ile Gly Gly Xaa Leu Thr Asn Ser Lys Gly Gln Asn
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Cys
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Arg Ala Ala Cys Arg Ala
65 70 75 80

Ala Lys Leu Arg Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Cys Glu Ser Ala Gly Val Glu Glu Asp Ala Ala Asn Leu Arg
100 105 110

Ala

<210> 55
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 55
ctcgacagtt actgagaacg acatccgtac cgaggratca atctatcaat gttgtgactt 60
ggcccccyyagag gcccccaagg ccataaagtc gctcaccgag cggctgtacg tcgggggccc 120
cctaaaccaat tcaaaggggc agaactgcgg ctatcgctgg tgtcgcgcta gcggcgtgct 180
gaccaccagc tgcggcaaca ccctcacatg ctacttgaaa gccagggcgg cctgtcgagc 240

tgcaaagctc caggactgca ccatgctcgt gtgcggagac gaccttgcg ttatctgtga 300
gagcgcggga gtcgaggagg acgcggcgaa cctacgagtc 340

<210> 56
<211> 113
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
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<223> Xaa represents any amino acid

<220>
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<222> (22)..(22)
<223> Xaa represents any amino acid

<400> 56

Ser Thr Val Thr Glu Asn Asp Ile Arg Thr Glu Xaa Ser Ile Tyr Gln
1 5 10 15

Cys Cys Asp Leu Ala Xaa Glu Ala Arg Lys Ala Ile Lys Ser Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Leu Thr Asn Ser Lys Gly Gln Asn
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Cys
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Arg Ala Ala Cys Arg Ala
65 70 75 80

Ala Lys Leu Gln Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Cys Glu Ser Ala Gly Val Glu Glu Asp Ala Ala Asn Leu Arg
100 105 110

Val

<210> 57
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 57
ctcgacagtt actgagaacg acattcgtgt cgaggaatca atctaccagt gctgtgactt 60
ggcccccggag gcccgcagg ccataaagtc gtcaccggag cggctgtata tcgggggtcc 120
cctaaccacac tcaaaagggc agaactgcgg ctaccgtcgg tgccgcgcca gcggcgtgct 180
gactaccagc tgcggtaata ccctcacatg ttacttgaaa gccagggcgg cctgtcgagc 240
tgcaagctc caggactgca caatgctcgt gtgcggagac gacttgtcg ttatctgtga 300
gagtgcrgga gtcgaggagg atgcggcgaa cctacgagtc 340

<210> 58
<211> 113
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (102)..(102)
<223> Xaa represents any amino acid

<400> 58
Ser Thr Val Thr Glu Asn Asp Ile Arg Val Glu Glu Ser Ile Tyr Gln
1 5 10 15

Cys Cys Asp Leu Ala Pro Glu Ala Arg Lys Ala Ile Lys Ser Leu Thr
20 25 30

Glu Arg Leu Tyr Ile Gly Gly Pro Leu Thr Asn Ser Lys Gly Gln Asn
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Cys
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Arg Ala Ala Cys Arg Ala
65 70 75 80

Ala Lys Leu Gln Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Cys Glu Ser Xaa Gly Val Glu Glu Asp Ala Ala Asn Leu Arg
100 105 110

Val

<210> 59
<211> 652
<212> DNA
<213> hepatitis C virus

<220>
<221> misc_feature
<222> (524)..(524)
<223> n represents any nucleotide

<220>
<221> misc_feature
<222> (625)..(625)
<223> n represents any nucleotide

<400> 59
cgtacagcct ccaggacccc ccctcccgaa agagccatag tggctcgagg aaccgggtgag 60
tacaccggaa ttgccaggac gaccgggtcc tttcttggat caacccgctc aatgcctgga 120
gatttggcg tgcccccgca agactgctag ccgagtagtg ttgggtcgcg aaaggccttg 180
tggtaactgcc tgataggggtg cttgcgagtg ccccgaggagg tctcgttagac cgtgcaccat 240
gagcacgaat cctaaacctc aaagaaaaac caaaagaaac accaaccgccc gcccacagga 300
cgtcaagttc cggggcggtg gccagatcgt tggtgagtc tacgtgctac cgcgccagg 360

cccttagattg ggtgtgcgcg cagcgccgaa gacttcggag cggtcgcaac ctcgtggag	420
gcgccaacctt attcccaagg agcgccgacc cgagggcagg tcctggcgc agcccggtt	480
ccccctggccc ctctatggta acgagggctg cgggtggca ggtnggctcc tgtcccctcg	540
cggctcccggt cctagttggg gtcctactga ccccccggcgt aggtcacgca atttggtaa	600
ggtcatcgat accctcacgt gttgnttcgc cgacctcatg gggtacatac cg	652

<210> 60
<211> 138
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (96)..(96)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE
<222> (129)..(129)
<223> Xaa represents any amino acid

<400> 60

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn			
1	5	10	15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly			
20	25	30	

Gly Val Tyr Val Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala			
35	40	45	

Ala Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro			
50	55	60	

Ile Pro Lys Glu Arg Arg Pro Glu Gly Arg Ser Trp Ala Gln Pro Gly			
65	70	75	80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Xaa
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Thr Asp Pro
100 105 110

Arg Arg Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys
115 120 125

Xaa Phe Ala Asp Leu Met Gly Tyr Ile Pro
130 135

<210> 61
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 61
ctcaacggtc actgaagctg atatccgaac agaggagtcc atataccaat gctgtgaccc 60
gcaccccgaa gcacgtgtag ccatcaagtc tttgactgaa aggctgtacg tcggggggcc 120
cttgaccaat tcaaaagggg agaactgcgg ctatgcaga tgccgtgcca gcggcgtctt 180
gacaaccagc tgcggcaaca ccctcacctg ctatatcaag gccctagcag cctgttagagc 240
tgccaagctc caggactgca ccatgctcgt ctgtggcgcac gacctggtcg tgatctgcga 300
gagtgttaggg acccaggagg atgcggcgcag cctgcgagcc 340

<210> 62
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 62
Ser Thr Val Thr Glu Ala Asp Ile Arg Thr Glu Glu Ser Ile Tyr Gln
1 5 10 15

Cys Cys Asp Leu His Pro Glu Ala Arg Val Ala Ile Lys Ser Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Leu Thr Asn Ser Lys Gly Glu Asn
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Cys
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Ile Lys Ala Leu Ala Ala Cys Arg Ala
65 70 75 80

Ala Lys Leu Gln Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Cys Glu Ser Val Gly Thr Gln Glu Asp Ala Ala Ser Leu Arg
100 105 110

Ala

<210> 63
<211> 340
<212> DNA
<213> hepatitis C virus

<220>
<221> misc_feature
<222> (1)..(1)
<223> n represents any nucleotide

<220>
<221> misc_feature
<222> (311)..(311)
<223> n represents any nucleotide

<220>
<221> misc_feature
<222> (316)..(316)
<223> n represents any nucleotide

<220>
<221> misc_feature
<222> (330)..(340)
<223> n represents any nucleotide

<400> 63
ntcaacagtc actgagagtg atatccgtac agaggagtcc atctaccaat gctgtgatct 60
agaccccgag gctcgcaagg ccataaggtc cctcacagag aggcttata tcgggggtcc 120
cctgacaaac tcaaaaggc agaactgcgg ctaccgcga tgccgtgcaa gcggcgtcct 180
gacgactagc tgcggcaaca ccctcacctg ttacataaag gccagggcag cctgtcgagc 240
tgcgaagctc caggattgct caatgctcg tctgtggcag gaccttgcg ttatctgcga 300
gatcgagggg ntccangagg atccgtcga nnnnnnnnnn 340

<210> 64
<211> 113
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (104)..(105)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE
<222> (110)..(113)
<223> Xaa represents any amino acid

<400> 64

Ser Thr Val Thr Glu Ser Asp Ile Arg Thr Glu Glu Ser Ile Tyr Gln
1 5 10 15

Cys Cys Asp Leu Asp Pro Glu Ala Arg Lys Ala Ile Arg Ser Leu Thr
20 25 30

Glu Arg Leu Tyr Ile Gly Gly Pro Leu Thr Asn Ser Lys Gly Gln Asn
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Cys

50

55

60

Gly Asn Thr Leu Thr Cys Tyr Ile Lys Ala Arg Ala Ala Cys Arg Ala
65 70 75 80

Ala Lys Leu Gln Asp Cys Ser Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Cys Glu Ile Glu Gly Xaa Xaa Glu Asp Pro Ser Xaa Xaa Xaa
100 105 110

Xaa

<210> 65
<211> 831
<212> DNA
<213> hepatitis C virus

<220>
<221> misc_feature
<222> (779)..(779)
<223> n represents any nucleotide

<400> 65
cgttagaccgt gcaccatgag cacgaatcct aaacacctaaa gaaaaaccaa acgtaacatc 60
aaccggccgc cacaggacgt caagttcccg ggcgggtggcc agatcgtcgg tggagttac
ctgttgcgcgc gcagggggccc tagattgggt gtgcgcgcga ctaggaagac ttccgagcgg 120
tcgcaacctc gtgggaggcg acagcctatc cccaaaggctc gccgatccga gggcagggtcc 180
tgggctcagc ccgggtaccc ttggcccttc tatggcaatg agggcatggg ttgggcaggg 240
tggctcctgt ccccccattgg ctccccggcct agttggggcc cttcagacccc ccggcgttagg 300
tcgcgttaatt tgggtaaggt catcgatacc ctcacatgcg gttcgccga cctcatgggg 360
tacattccgc tcgtcggcgc cccccctaggg ggcgttgcca gggccctggc gcaaggcttc 420
cgggatctac cacgtcacca acgattgttc caatgggagc attgtgtatg aggcggaaagg 480
catgatcatg catctccccg ggtgcgtgcc ctgcgttcgg gaaggtaata tctctcggtt 540
ctgggttaccg ttttccccca cgctcgcagc caggaatgct agcgtccccca ctcaggcaat 600
660

tcggcgacac gtcgacttgc ttgttggggc ggccacactc tgttctgcta tgtatgtggg	720
ggacctctgt gggtccgtct tcctcgtcgg ccaactgttc accttcacaw cccgccagna	780
ctacacagtg caagactgca attgttccat ctacccggc catataacgg g	831

<210> 66
<211> 158
<212> PRT
<213> hepatitis C virus

<400> 66

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Ile Asn
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Ala Arg Arg Ser Glu Gly Arg Ser Trp Ala Gln Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Met Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro His Gly Ser Arg Pro Ser Trp Gly Pro Ser Asp Pro
100 105 110

Arg Arg Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala Pro Leu
130 135 140

Gly Gly Val Ala Arg Ala Leu Ala Gln Gly Phe Arg Asp Leu
145 150 155

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<210> 67
<211> 340
<212> DNA
<213> hepatitis C virus

<220>
<221> misc_feature
<222> (1)..(7)
<223> n represents any nucleotide
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<220>
<221> misc_feature
<222> (334)..(340)
<223> n represents any nucleotide
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<400> 67
nnnnnnnngtc actgagagtg atatccgtgt cgaggartca atttaccaat gctgtgacct      60
ggcccccgag gctcgcgtag ccataaagtc gctcactgag cggctatatg tcgggggccc      120
tctcaccaac tcaaaaggac agaactgcgg ctatgcggg tgccgtgcga gcggtgtgct      180
gactactagc tgcggtaaca ccctcacatg ctacctgaaa gccgcccgcgg cctgtcgagc      240
tgcaaagctc cggaaatgca caatgctcgt gtgtggcgac gacctcgctg ttatctgtga      300
gagtgcgggg gtccaggagg atgctgcaag cctnnnnnnn      340
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<210> 68
<211> 113
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (1)..(2)
<223> Xaa represents any amino acid
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<220>
<221> MISC_FEATURE
<222> (12)..(12)
<223> Xaa represents any amino acid
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<220>
<221> MISC_FEATURE
<222> (111)..(113)
<223> Xaa represents any amino acid

<400> 68

Xaa Xaa Val Thr Glu Ser Asp Ile Arg Val Glu Xaa Ser Ile Tyr Gln
1 5 10 15

Cys Cys Asp Leu Ala Pro Glu Ala Arg Val Ala Ile Lys Ser Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Leu Thr Asn Ser Lys Gly Gln Asn
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Cys
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Ala Ala Ala Cys Arg Ala
65 70 75 80

Ala Lys Leu Arg Glu Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Cys Glu Ser Ala Gly Val Gln Glu Asp Ala Ala Ser Xaa Xaa
100 105 110

Xaa

<210> 69
<211> 340
<212> DNA
<213> hepatitis C virus

<220>
<221> misc_feature
<222> (28)..(28)
<223> n represents any nucleotide

<220>
<221> misc_feature
<222> (336)..(340)
<223> n represents any nucleotide

<400> 69
ctcgacagtc acagagagag atataagnac tgaggagtcc atataccagg cttgttcctt 60
acccgagcag gccagaactg ccatacactc attgactgag agactctacg taggagggcc
catgatgaac agcaaagggc aatcctgcgg atacaggcat tgccgcgcca gcggagtgct 180
caccaccagt atgggaaata ccatcacgtg ctacatcaag gccctagcgg cttgtaaagc 240
agcaggaata gtggcccca ccatgctggt gtgcggcgat gacctagttg tcatactcaga 300
gagtcagggta gtcgaggagg acgaccggaa cctgannnn 340

<210> 70
<211> 113
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE
<222> (112)..(113)
<223> Xaa represents any amino acid

<400> 70
Ser Thr Val Thr Glu Arg Asp Ile Xaa Thr Glu Glu Ser Ile Tyr Gln
1 5 10 15

Ala Cys Ser Leu Pro Glu Gln Ala Arg Thr Ala Ile His Ser Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Met Asn Ser Lys Gly Gln Ser
35 40 45

Cys Gly Tyr Arg His Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Met
50 55 60

Gly Asn Thr Ile Thr Cys Tyr Ile Lys Ala Leu Ala Ala Cys Lys Ala
65 70 75 80

Ala Gly Ile Val Ala Pro Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ser Glu Ser Gln Gly Val Glu Glu Asp Asp Arg Asn Leu Xaa
100 105 110

Xaa

<210> 71
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 71
ctcaaccgtc acagagaggg atataagaac tgaggagtcc atatacctgg cctgctcctt 60
acccgagcag gcccggactg ccatacattc attaactgag agactttacg tgggagggcc 120
catgatgaac agcaaagggc agtcctgcgg atacaggcgt tgccgcgcta gcggagtgct 180
caccaccagt atgggaaaca ccatcacgtg ttatgtaaa gccctcgca gttgtaaagc 240
tgccggcatt gttgccccca ccatgctggt gtgcggcgat gacctggttg tcatctcaga 300
gagtcagggg gctgaggagg acgagcgaaa cctgagagtc 340

<210> 72
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 72

Ser Thr Val Thr Glu Arg Asp Ile Arg Thr Glu Glu Ser Ile Tyr Leu
1 5 10 15

Ala Cys Ser Leu Pro Glu Gln Ala Arg Thr Ala Ile His Ser Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Met Asn Ser Lys Gly Gln Ser
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Met
50 55 60

Gly Asn Thr Ile Thr Cys Tyr Val Lys Ala Leu Ala Ala Cys Lys Ala
65 70 75 80

Ala Gly Ile Val Ala Pro Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ser Glu Ser Gln Gly Ala Glu Glu Asp Glu Arg Asn Leu Arg
100 105 110

Val

<210> 73
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 73
ctcaacagtc gcggagagag acatcaggac cgaggagtcc atttaccttg cctgctcctt 60
acccgagcaa gcccgaactg ccatacattc attgactgag agactttacg taggagggcc 120
catgatgaac agcaaggac agtcctgcgg ttacagacgt tgccgcgcc 180
caccaccagc atgggaaata ccatcacatg ctatgtgaag gcattagctg cctgcaaagc 240
tgcaaggatc gttgctccca cgatgctgg 300
gagtcaggaa accgaggagg atgagcggaa cctgagagtc 340

<210> 74
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 74

Ser Thr Val Ala Glu Arg Asp Ile Arg Thr Glu Glu Ser Ile Tyr Leu
1 5 10 15

Ala Cys Ser Leu Pro Glu Gln Ala Arg Thr Ala Ile His Ser Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Met Asn Ser Lys Gly Gln Ser
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Met
50 55 60

Gly Asn Thr Ile Thr Cys Tyr Val Lys Ala Leu Ala Ala Cys Lys Ala
65 70 75 80

Ala Gly Ile Val Ala Pro Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Ile Ile Ser Glu Ser Gln Gly Thr Glu Glu Asp Glu Arg Asn Leu Arg
100 105 110

Val

<210> 75
<211> 1195
<212> DNA
<213> hepatitis C virus

<220>
<221> misc_feature
<222> (3)..(3)
<223> n represents any nucleotide

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<220>
<221> misc_feature
<222> (7)..(7)
<223> n represents any nucleotide
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<220>
<221> misc_feature
<222> (352)..(352)
<223> n represents any nucleotide
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<220>
<221> misc_feature
<222> (361)..(361)
<223> n represents any nucleotide
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<220>
<221> misc_feature
<222> (369)..(369)
<223> n represents any nucleotide
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<220>
<221> misc_feature
<222> (371)..(371)
<223> n represents any nucleotide
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<220>
<221> misc_feature
<222> (374)..(374)
<223> n represents any nucleotide
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<220>
<221> misc_feature
<222> (387)..(387)
<223> n represents any nucleotide
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<220>
<221> misc_feature
<222> (395)..(395)
<223> n represents any nucleotide
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<220>
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<221> misc_feature
<222> (446)..(446)
<223> n represents any nucleotide
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<220>
<221> misc_feature
<222> (621)..(621)
<223> n represents any nucleotide
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<220>
<221> misc_feature
<222> (629)..(629)
<223> n represents any nucleotide
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<220>
<221> misc_feature
<222> (798)..(798)
<223> n represents any nucleotide
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<220>
<221> misc_feature
<222> (887)..(887)
<223> n represents any nucleotide
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<220>
<221> misc_feature
<222> (887)..(888)
<223> n represents any nucleotide
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<220>
<221> misc_feature
<222> (890)..(891)
<223> n represents any nucleotide
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<220>
<221> misc_feature
<222> (978)..(978)
<223> n represents any nucleotide
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<220>
<221> misc_feature
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<222> (1194)..(1194)
<223> n represents any nucleotide

<220>
<221> misc_feature
<222> (673)..(673)
<223> n represents any nucleotide

<400> 75
cgnacancct ccaggcccccc cctcccccggg agagccatag tggctcgccg aaccgggtgag 60
tacacccggaa ttgccgggaa gactgggtcc tttcttggat aaacccactc tatgcccggc 120
catttggcg tgcccccgca agactgctar ccgagtagcg ttgggttgcg aaaggccttg 180
tggtaactgcc tgatagggtg ctgcgagtg ccccgaggagg tctcgttagac cgtgcacatcat 240
gagcacaaat cctaaacctc aaagaaaaac caaaagaaac actaaccgcc gcccacagga 300
cgtaagttc cccggccgtg gccagatcgt tggcggagta tacttgttgc cttgcagggg 360
ncccaggtnng ngtntatgcg caacgangaa gactnccgaa cagtcggcagc cacgtggag 420
gcgccagccc atcccgaaag atcggnncac cactggcaag tcctggggac gtccaggata 480
tccctggccc ctgtatggga acgagggcct cgggtggca gggtggtcc tggcccccgg 540
gggctcccgcc cctgtatggg gccccacggg ccccccggcat aggtcgccgc acttgggtaa 600
ggtcatcgat accctcacgt ncggcttnc cgacccatcg gggtaatcc cctgcgttgg 660
cgccccagta ggnngcgtcg ccagagctct cgcgcattgc gtgagagtc tggaggacgg 720
gataaactat gaaacaggga acctccccgg ttgcttttc tctatctccc tcctgctct 780
tctgtcctga attaccngc cagttctgc tgtggaaatc aaaaacacca gmaacacata 840
catggtgact aacgactgtt caaacagyag catcacctgg cagctnnngn ncgcggtgct 900
tcacgttccct ggatgcgtcc cctgtgaacg agagggcaac agttcccggt gctggattcc 960
agtcacgccc racgtaknng tgagccgacc tgggtcccta accgagggtt tgccatcgca 1020
catcgacacc atcgtagcgt ccgcaacatt ttgttctgcc ctctacatag gggatgtatg 1080
tggcgcgata atgatagctg cccaaatggt catcgatcg ccggagcatc atcactttgt 1140
ccaggactgt aactgttcca tctacccggg ccacataacg gggcctcgta tgtng 1195

<210> 76
<211> 318
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (38)..(38)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE
<222> (41)..(41)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE
<222> (44)..(44)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE
<222> (44)..(46)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE
<222> (50)..(50)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE
<222> (53)..(53)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE
<222> (70)..(70)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE

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<222> (128)..(128)
<223> Xaa represents any amino acid
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<220>
<221> MISC_FEATURE
<222> (131)..(131)
<223> Xaa represents any amino acid
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<220>
<221> MISC_FEATURE
<222> (145)..(145)
<223> Xaa represents any amino acid
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<220>
<221> MISC_FEATURE
<222> (186)..(186)
<223> Xaa represents any amino acid
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<220>
<221> MISC_FEATURE
<222> (197)..(197)
<223> Xaa represents any amino acid
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<220>
<221> MISC_FEATURE
<222> (209)..(209)
<223> Xaa represents any amino acid
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<220>
<221> MISC_FEATURE
<222> (216)..(217)
<223> Xaa represents any amino acid
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<220>
<221> MISC_FEATURE
<222> (244)..(244)
<223> Xaa represents any amino acid
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<220>
<221> MISC_FEATURE
<222> (246)..(246)
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<223> Xaa represents any amino acid

<220>

<221> MISC_FEATURE

<222> (318)..(318)

<223> Xaa represents any amino acid

<400> 76

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Xaa Cys Arg Xaa Pro Arg Xaa Xaa Xaa Cys Ala
35 40 45

Thr Xaa Lys Thr Xaa Glu Gln Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Asp Arg Xaa Thr Thr Gly Lys Ser Trp Gly Arg Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Leu Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Thr Asp Pro
100 105 110

Arg His Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Xaa
115 120 125

Gly Phe Xaa Asp Leu Met Gly Tyr Ile Pro Val Val Gly Ala Pro Val
130 135 140

Xaa Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Val Leu Glu Asp
145 150 155 160

Gly Ile Asn Tyr Glu Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile

165

170

175

Ser Leu Leu Ala Leu Leu Ser Ile Thr Xaa Pro Val Ser Ala Val Glu
180 185 190

Ile Lys Asn Thr Xaa Asn Thr Tyr Met Val Thr Asn Asp Cys Ser Asn
195 200 205

Xaa Ser Ile Thr Trp Gln Leu Xaa Xaa Ala Val Leu His Val Pro Gly
210 215 220

Cys Val Pro Cys Glu Arg Glu Gly Asn Ser Ser Arg Cys Trp Ile Pro
225 230 235 240

Val Thr Pro Xaa Val Xaa Val Ser Arg Pro Gly Ala Leu Thr Glu Gly
245 250 255

Leu Arg Ser His Ile Asp Thr Ile Val Ala Ser Ala Thr Phe Cys Ser
260 265 270

Ala Leu Tyr Ile Gly Asp Val Cys Gly Ala Ile Met Ile Ala Ala Gln
275 280 285

Val Val Ile Val Ser Pro Glu His His His Phe Val Gln Asp Cys Asn
290 295 300

Cys Ser Ile Tyr Pro Gly His Ile Thr Gly Pro Arg Met Xaa
305 310 315

<210> 77
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 77
atccacagtc actgaaaagag acatcagagt tgaagagtcc gtttatctgt cctgttcact 60
tcccgaggag gccc gagctg ccatacactc actaactgag aggctgtacg tgggagggtcc 120
catgcagaac agcaaggggc aatcctgcgg atacaggcgc tgccgcgcca gcgggggtgct 180
caccactagc atgggaaata ctctcacatg ctacttgaag gcccaggcgg cctgcaggc 240

cgcgccatt gttgcaccca caatgctggt gtgtggcgac gacctggtcg tcatctcaga 300
gagtcagggg actgagaggg acgagaacaa cctgagacct 340

<210> 78
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 78

Ser Thr Val Thr Glu Arg Asp Ile Arg Val Glu Glu Ser Val Tyr Leu
1 5 10 15

Ser Cys Ser Leu Pro Glu Glu Ala Arg Ala Ala Ile His Ser Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Gln Asn Ser Lys Gly Gln Ser
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Met
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Gln Ala Ala Cys Arg Ala
65 70 75 80

Ala Gly Ile Val Ala Pro Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ser Glu Ser Gln Gly Thr Glu Arg Asp Glu Asn Asn Leu Arg
100 105 110

Pro

<210> 79
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 79
ctcaacagtc acggagaggg acatcaggaa tgaggagtcc atattcctgg cctgctcggt 60
gccccgaggag gccccggactg tcatacattc gctcactgag agactctaca taggcgggccc 120
gatgatgaac agcaaaggcc agtcctgtgg atacaggcgt tgtcgcgcca gcgggggtgtt 180
caccactagc atgggcaata ccatcacgtg ctatgtgaaa gccatggcag cttgcagagc 240
tgccgggatt gacgccccca caatgttggt atgtggcgcac gacctggtgg tcatactcaga 300
gagtcagggg accgaggagg acgagcgaaa tctgagagtc 340

<210> 80
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 80

Ser Thr Val Thr Glu Arg Asp Ile Arg Asn Glu Glu Ser Ile Phe Leu
1 5 10 15

Ala Cys Ser Leu Pro Glu Glu Ala Arg Thr Val Ile His Ser Leu Thr
20 25 30

Glu Arg Leu Tyr Ile Gly Gly Pro Met Met Asn Ser Lys Gly Gln Ser
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Phe Thr Thr Ser Met
50 55 60

Gly Asn Thr Ile Thr Cys Tyr Val Lys Ala Met Ala Ala Cys Arg Ala
65 70 75 80

Ala Gly Ile Asp Ala Pro Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ser Glu Ser Gln Gly Thr Glu Glu Asp Glu Arg Asn Leu Arg
100 105 110

Val

<210> 81
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 81
ctcttgactc tactgtcact gaacaggata tcagggtaga agaagaaata taccaatgtt 60
gtgaccttga gccggaggct agacgggcaa tcaaattcgct cacggaacgg cttagtt 120
gaggtcccat gttcaacagc aaggggctca aatgcggata tcgccgttgc cgtgctagcg 180
gtgtattgcc cactagctac ggttaatacaa tcacctgcta catcaaggcc agagcggctg 240
ctcgagctgc gggcattcaa gacccatcat tccttgcgtc cgagatgtat ttgggtggtag 300
tggctgagag ttgcgkcggtt gatgaggagg atagggcagc 340

<210> 82
<211> 113
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (103)..(103)
<223> Xaa represents any amino acid

<400> 82
Ser Thr Val Thr Glu Gln Asp Ile Arg Val Glu Glu Glu Ile Tyr Gln
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Arg Ala Ile Lys Ser Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Phe Asn Ser Lys Gly Leu Lys
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Pro Thr Ser Tyr
50 55 60

Gly Asn Thr Ile Thr Cys Tyr Ile Lys Ala Arg Ala Ala Ala Arg Ala
65 70 75 80

Ala Gly Leu Gln Asp Pro Ser Phe Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Val Ala Glu Ser Cys Xaa Val Asp Glu Glu Asp Arg Ala Ala Leu
100 105 110

Arg

<210> 83
<211> 340
<212> DNA
<213> hepatitis C virus

<220>
<221> misc_feature
<222> (336)..(336)
<223> n represents any nucleotide

<400> 83
ctccactgta accgaaaagg acatcaggcc cgaggaagag gtctatcagt gttgtgaccc 60
ggagcccgaa gctcgcaagg ttattaccgc cctcacagaa agactctacg tgggcggccc 120
catgcacaac agcaaggggag acctttgtgg gtatcggaga tgccgcgcaa gcggcgtcta 180
cacgaccagc ttcggaaaca cactgacgtg ctacctcaa gcctcagctg ctattagagc 240
ggcagggctg agagactgca ccatgctggt ttgcggtgac gacttggtcg tcatcgctga 300
gagcgatggc gtagaggagg ataaccgagc cctccnagcc 340

<210> 84
<211> 113
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (112)..(112)
<223> Xaa represents any amino acid

<220>
<221> misc_feature
<223> Xaa represents any amino acid

<400> 84

Ser Thr Val Thr Glu Lys Asp Ile Arg Pro Glu Glu Glu Val Tyr Gln
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Lys Val Ile Thr Ala Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met His Asn Ser Lys Gly Asp Leu
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Ser Ala Ala Ile Arg Ala
65 70 75 80

Ala Gly Leu Arg Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ala Glu Ser Asp Gly Val Glu Glu Asp Asn Arg Ala Leu Xaa
100 105 110

Ala

<210> 85
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 85
ctccacggtg actgaaaagg acatcagggt cgaggaagag atcttatcaat gttgtgacct 60

ggarcccgaa gcccccaaag caatatccgc cctcacagag agrctctact tgggcggccc	120
catgtataac agcaaagggg agctctgcgg gtatcgagg tgccgcgcga gcggagtgt	180
caccacaagt ttcgggaaca cagtgacctg ctatcttaag gccaccgcag ctaccaggc	240
tgcaggccta aaagactgca ccatgctggt ctgcggtgac gacttggtcg tcatgccga	300
gagcgagggc gtagaggagg attcccaacc cctccgagcc	340

<210> 86
<211> 113
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (21)..(21)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE
<222> (34)..(34)
<223> Xaa represents any amino acid

<400> 86

Ser	Thr	Val	Thr	Glu	Lys	Asp	Ile	Arg	Val	Glu	Glu	Glu	Ile	Tyr	Gln
1				5				10					15		

Cys	Cys	Asp	Leu	Xaa	Pro	Glu	Ala	Arg	Lys	Ala	Ile	Ser	Ala	Leu	Thr
				20				25				30			

Glu	Xaa	Leu	Tyr	Leu	Gly	Gly	Pro	Met	Tyr	Asn	Ser	Lys	Gly	Glu	Leu
					35			40			45				

Cys	Gly	Tyr	Arg	Arg	Cys	Arg	Ala	Ser	Gly	Val	Tyr	Thr	Thr	Ser	Phe
					50			55			60				

Gly	Asn	Thr	Val	Thr	Cys	Tyr	Leu	Lys	Ala	Thr	Ala	Ala	Thr	Arg	Ala
					65			70		75			80		

Ala Gly Leu Lys Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val

85

90

95

Val Ile Ala Glu Ser Glu Gly Val Glu Glu Asp Ser Gln Pro Leu Arg
100 105 110

Ala

<210> 87
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 87
ctccaccgta accgaaaggg acatcagggt cgaggaggag gtctatcagt gttgtgatct 60
ggagccagag gcccgaagg caatatccgc cctcacggag agactctatg tggcggtcc 120
catgttaac agcaagggag acctatgtgg ctaccgcagg tgccgcgcaa gcggcgtcta 180
caccaccgc ttccgaaaca cactgacctg ctacctaag gccacggccg ctaccagagc 240
ggccggcctg aaggattgca caatgctggt ttgcgggac gacctggtcg tcatcgcaga 300
gagcgatggc gtggacgagg accgcccagc cctccaaagct 340

<210> 88
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 88

Ser Thr Val Thr Glu Arg Asp Ile Arg Val Glu Glu Glu Val Tyr Gln
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Lys Ala Ile Ser Ala Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Phe Asn Ser Lys Gly Asp Leu
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Thr Ala Ala Thr Arg Ala
65 70 75 80

Ala Gly Leu Lys Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ala Glu Ser Asp Gly Val Asp Glu Asp Arg Arg Ala Leu Gln
100 105 110

Ala

<210> 89
<211> 340
<212> DNA
<213> hepatitis C virus

<220>
<221> misc_feature
<222> (111)..(111)
<223> n represents any nucleotide

<220>
<221> misc_feature
<222> (126)..(126)
<223> n represents any nucleotide

<400> 89
ctcaacagtc acagagcgcg atgtccagac ggagcatgac atctaccagt gctgttaagtt 60
ggagcccgca gcacggacag ccatcacatc gcttactgac cgattgtact ncgggtggtcc 120
catgtntaac tctaaaggta cggcatgtgg ataccgtagg tgcagggcca gtggcgtctt 180
gaccaccatc ctggccaata ctctgacttg ctacttgaaa gctcaggcgg catgcagagc 240
tgccgggctg aaggactttg acatgttggt ctgcggagac gaccttgcgtcg ttatttcgga 300
gagtttgggg gtctcgaggagg acactagtgc actgcgagct 340

<210> 90
<211> 113
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (37)..(37)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE
<222> (42)..(42)
<223> Xaa represents any amino acid

<400> 90

Ser Thr Val Thr Glu Arg Asp Val Gln Thr Glu His Asp Ile Tyr Gln
1 5 10 15

Cys Cys Lys Leu Glu Pro Ala Ala Arg Thr Ala Ile Thr Ser Leu Thr
20 25 30

Asp Arg Leu Tyr Xaa Gly Gly Pro Met Xaa Asn Ser Lys Gly Gln Ala
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ile Leu
50 55 60

Ala Asn Thr Leu Thr Cys Tyr Leu Lys Ala Gln Ala Ala Cys Arg Ala
65 70 75 80

Ala Gly Leu Lys Asp Phe Asp Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ser Glu Ser Leu Gly Val Ser Glu Asp Thr Ser Ala Leu Arg
100 105 110

Ala

<210> 91
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 91
ctcgacagtc accgagcgcg acatccrcac cgagcacgac atctaccaat gctgccaact 60
tgacccggtg gcacgcaagg ctattacatc tctgactgag cggctgtact gcggwgggccc 120
catgatgaac tcccgtggtc aatcatgtgg ataccgtagg tgccgagcca gtggcgtgct 180
caccacgagc ttgggcaata ccctaacatg ctattgaaa gcacaaggcag cgtgttagggc 240
agcaaagctc aaaaactatg acatgttagt ctgcggagac gatctagtcg ttatcgccga 300
gagtggagga gtctctgagg atgttgacgc cctgcgagca 340

<210> 92
<211> 113
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE
<222> (38)..(38)
<223> Xaa represents any amino acid

<400> 92

Ser Thr Val Thr Glu Arg Asp Ile Xaa Thr Glu His Asp Ile Tyr Gln
1 5 10 15

Cys Cys Gln Leu Asp Pro Val Ala Arg Lys Ala Ile Thr Ser Leu Thr
20 25 30

Glu Arg Leu Tyr Cys Xaa Gly Pro Met Met Asn Ser Arg Gly Gln Ser

35

40

45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Leu
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Gln Ala Ala Cys Arg Ala
65 70 75 80

Ala Lys Leu Lys Asn Tyr Asp Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ala Glu Ser Gly Gly Val Ser Glu Asp Val Asp Ala Leu Arg
100 105 110

Ala

<210> 93
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 93
ctcctccgtc acggagcgtg acatccgcac tgaacacgac atctatcagt gctgccaatt 60
agatccggta gcacggaaag ccattacatc tcttactgag cggctgtact gcggcggccc 120
catgtacaac tctcgaggc agtcatgtgg gtaccgcagg tgccggcta gtggtgtctt 180
caccacaagc ttgggcaaca ccatgacatg ctacctgaag gctcaggcgg cttgttagggc 240
agcraagctc aaaaactttg acatgttggt ctgcggagac gacctagtcg ttattgctga 300
gagcggagga gtccctgagg atgccggggc cctgcgagtc 340

<210> 94
<211> 113
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (81)..(81)
<223> Xaa represents any amino acid

<400> 94

Ser Ser Val Thr Glu Arg Asp Ile Arg Thr Glu His Asp Ile Tyr Gln
1 5 10 15

Cys Cys Gln Leu Asp Pro Val Ala Arg Lys Ala Ile Thr Ser Leu Thr
20 25 30

Glu Arg Leu Tyr Cys Gly Gly Pro Met Tyr Asn Ser Arg Gly Gln Ser
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Phe Thr Thr Ser Leu
50 55 60

Gly Asn Thr Met Thr Cys Tyr Leu Lys Ala Gln Ala Ala Cys Arg Ala
65 70 75 80

Xaa Lys Leu Lys Asn Phe Asp Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ala Glu Ser Gly Gly Val Pro Glu Asp Ala Gly Ala Leu Arg
100 105 110

Val

<210> 95
<211> 340
<212> DNA
<213> hepatitis C virus

<220>
<221> misc_feature
<222> (36)..(36)
<223> n represents any nucleotide

<400> 95
atccacagtc acggggcgcg acatacgcac agaacnagac atttacctgt cctgccagct 60

cgacccagag	gcccggaaag	ccataaagtc	tctcactgag	aggctctatg	tcgggggccc	120
tatgtacaac	tcaaagggcc	aactctgtgg	tcaacgccga	tgccgagcaa	gcggagtaact	180
ccccacaagc	atgggtaaca	ccatcacatg	cttcctgaag	gcaaccgccc	cttggccgagc	240
agccggctt	acagattatg	acatgttggt	ctgcggagac	gatttggttg	tcgtaactga	300
gagtgctgga	gtcaacgagg	atatcgctaa	cctgcgagcc			340

<210> 96
<211> 113
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (12)..(12)
<223> Xaa represents any amino acid

<400> 96

Ser	Thr	Val	Thr	Gly	Arg	Asp	Ile	Arg	Thr	Glu	Xaa	Asp	Ile	Tyr	Leu
1				5				10					15		

Ser	Cys	Gln	Leu	Asp	Pro	Glu	Ala	Arg	Lys	Ala	Ile	Lys	Ser	Leu	Thr
						20			25			30			

Glu	Arg	Leu	Tyr	Val	Gly	Gly	Pro	Met	Tyr	Asn	Ser	Lys	Gly	Gln	Leu
					35			40			45				

Cys	Gly	Gln	Arg	Arg	Cys	Arg	Ala	Ser	Gly	Val	Leu	Pro	Thr	Ser	Met
					50			55			60				

Gly	Asn	Thr	Ile	Thr	Cys	Phe	Leu	Lys	Ala	Thr	Ala	Ala	Cys	Arg	Ala
					65			70		75		80			

Ala	Gly	Phe	Thr	Asp	Tyr	Asp	Met	Leu	Val	Cys	Gly	Asp	Asp	Leu	Val
					85			90			95				

Val	Val	Thr	Glu	Ser	Ala	Gly	Val	Asn	Glu	Asp	Ile	Ala	Asn	Leu	Arg
					100			105			110				

Ala

<210> 97
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 97
ctccactgtc actgagcagg acatcaggg agaacttcc atcttcagg cctgtgaccc 60
caaggacgag gctaggaggg tgataacttc actcacggag cggctttact gtgggtggcc 120
tatgttcaac agcaaggac aacactgcgg ttaccgcgc tgccgtgcta gtgggggtgct 180
acccaccaggc ttcgggaaca caatcacctg ttacatcaaa gcaaaggcag ctaccaaagc 240
tgccggaatt aaaaatccat cattccttgc ctgcggagat gacttggtcg tgattgctga 300
gagtgcaggg atcgatgagg acaagagcgc cttgagagct 340

<210> 98
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 98
Ser Thr Val Thr Glu Gln Asp Ile Arg Val Glu Leu Ser Ile Phe Gln
1 5 10 15

Ala Cys Asp Leu Lys Asp Glu Ala Arg Arg Val Ile Thr Ser Leu Thr
20 25 30

Glu Arg Leu Tyr Cys Gly Gly Pro Met Phe Asn Ser Lys Gly Gln His
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Pro Thr Ser Phe
50 55 60

Gly Asn Thr Ile Thr Cys Tyr Ile Lys Ala Lys Ala Ala Thr Lys Ala
65 70 75 80

Ala Gly Ile Lys Asn Pro Ser Phe Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ala Glu Ser Ala Gly Ile Asp Glu Asp Lys Ser Ala Leu Arg
100 105 110

Ala

<210> 99
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 99
ctctaccgtc acagagaggg acatacggac agaagaatcc atctatctgt cttgtcaatt 60
gcctgaagag gcccggaaag ccattaaatc gctgacagag agactatacg tggcgccccc 120
gatggaaaac agcaagggcc aggcttgcgg atataggcgt tgccgcgcaa gcggggtatt 180
caccacaagc ttgggaaaca ccatgacttg ttacatcaaa gctaaagcgg cttgtaaagc 240
cgctggcatt gtagacccgg ttagtgcgt gtgcggtgac gacctagtgg tcatctcaga 300
aagcaagggg gtggaggagg accagcggga cctacgagtc 340

<210> 100
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 100

Ser Thr Val Thr Glu Arg Asp Ile Arg Thr Glu Glu Ser Ile Tyr Leu
1 5 10 15

Ser Cys Gln Leu Pro Glu Glu Ala Arg Lys Ala Ile Lys Ser Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Glu Asn Ser Lys Gly Gln Ala

35

40

45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Phe Thr Thr Ser Leu
50 55 60

Gly Asn Thr Met Thr Cys Tyr Ile Lys Ala Lys Ala Ala Cys Lys Ala
65 70 75 80

Ala Gly Ile Val Asp Pro Val Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ser Glu Ser Lys Gly Val Glu Glu Asp Gln Arg Asp Leu Arg
100 105 110

Val

<210> 101
<211> 335
<212> DNA
<213> hepatitis C virus

<400> 101
ctccactgtc actgagagag acatacggac agaagaatcc atctayytgg cttgtcaatt 60
gccccgaagag gccccggaagg ccattaaatc actgacagag agactatacg tgggcggccc 120
gatggaaaac agcaaaggcc aggcctgcgg atataggcgt tgccgcgcaa gcggggatt 180
caccacaagc ttggggaaca ccatgacttg ttacatcaag gccaargcag cttgtaaagc 240
ygctggcatt gttgacccgg ttagtgcgt gtgcggcgac gacctagtgg tcatctcaga 300
gagcaagggg gtagaggagg accagcgaga cctac 335

<210> 102
<211> 113
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (15)..(16)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE
<222> (75)..(75)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE
<222> (80)..(80)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE
<222> (112)..(113)
<223> Xaa represents any amino acid

<400> 102

Ser Thr Val Thr Glu Arg Asp Ile Arg Thr Glu Glu Ser Ile Xaa Xaa
1 5 10 15

Ala Cys Gln Leu Pro Glu Glu Ala Arg Lys Ala Ile Lys Ser Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Glu Asn Ser Lys Gly Gln Ala
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Phe Thr Thr Ser Leu
50 55 60

Gly Asn Thr Met Thr Cys Tyr Ile Lys Ala Xaa Ala Ala Cys Lys Xaa
65 70 75 80

Ala Gly Ile Val Asp Pro Val Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ser Glu Ser Lys Gly Val Glu Glu Asp Gln Arg Asp Leu Xaa
100 105 110

Xaa

<210> 103
<211> 461
<212> DNA
<213> hepatitis C virus

<400> 103
cgtacagcct ccaggacccc ccctcccgaa agagccatag tggctcgcc aaccggtag 60
tacaccggaa ttgccggaa gactgggtcc tttcttggat taacccactc tatgccccgaa 120
gatttggcg tgcccccgca agactgctag ccgagtagcg ttgggttgcg aaaggccttg 180
tggtaactgcc tgataggggtg cttgcgagtg ccccgagg tctcgtagac cgtgcaccat 240
gagcacgaat cctaaacctc aaagacaaac caaaagaaac accaaccgccc gcccacagga 300
cgtaagtcc cccggcggtg gccagatcg tggcggttg tacttgtgc cgccgcagg 360
ccccagagtg ggtgtgcgcg cgacgagaaa gacctcggag cggtcccagc cgctggag 420
gcgcacacct atccccaaagg ttaggcgcac caccggccgt t 461

<210> 104
<211> 74
<212> PRT
<213> hepatitis C virus

<400> 104
Met Ser Thr Asn Pro Lys Pro Gln Arg Gln Thr Lys Arg Asn Thr Asn
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Val Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Val Arg Arg Thr Thr Gly Arg
65 70

<210> 105
<211> 340
<212> DNA
<213> hepatitis C virus

<220>
<221> misc_feature
<222> (338)..(338)
<223> n represents any nucleotide

<400> 105
ctctactgtc acagagaggg atatacgaac agaggaatcc atytatctgg cttgtcaatt 60
gcccgaagag gcccggaaagg ccatcaaatac actgacagag agactatacgt tgccggccc 120
gatggaaaac agcaagggcc aggcctgcgg atacaggcgt tgccgcgcaa gcgggttatt 180
caccacaagc ttggggaaaca ccatgacttg ttacatcaaa gccaaggcgg cttgtaaagc 240
cgctggcatt gttgaccag ttagtgcgt gtgcggcgcac gacctagtgg tcatctcaga 300
aagcaagggg gtggaggagg accaacgaga cctacgantc 340

<210> 106
<211> 113
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (14)..(14)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE
<222> (113)..(113)
<223> Xaa represents any amino acid

<400> 106

Ser Thr Val Thr Glu Arg Asp Ile Arg Thr Glu Glu Ser Xaa Tyr Leu
1 5 10 15

Ala Cys Gln Leu Pro Glu Glu Ala Arg Lys Ala Ile Lys Ser Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Glu Asn Ser Lys Gly Gln Ala
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Phe Thr Thr Ser Leu
50 55 60

Gly Asn Thr Met Thr Cys Tyr Ile Lys Ala Lys Ala Ala Cys Lys Ala
65 70 75 80

Ala Gly Ile Val Asp Pro Val Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ser Glu Ser Lys Gly Val Glu Glu Asp Gln Arg Asp Leu Arg
100 105 110

Xaa

<210> 107

<211> 11

<212> PRT

<213> hepatitis C virus

<400> 107

Ala Arg Gln Ser Asp Gly Arg Ser Trp Ala Gln
1 5 10

<210> 108

<211> 11

<212> PRT

<213> hepatitis C virus

<400> 108

Ala Arg Arg Ser Glu Gly Arg Ser Trp Ala Gln
1 5 10

<210> 109

<211> 11

<212> PRT

<213> hepatitis C virus

<400> 109

Glu Arg Arg Pro Glu Gly Arg Ser Trp Ala Gln
1 5 10

<210> 110

<211> 11

<212> PRT

<213> hepatitis C virus

<400> 110

Ala Arg Arg Pro Glu Gly Arg Ser Trp Ala Gln
1 5 10

<210> 111

<211> 11

<212> PRT

<213> hepatitis C virus

<400> 111

Asp Arg Arg Thr Thr Gly Lys Ser Trp Gly Arg
1 5 10

<210> 112

<211> 11

<212> PRT

<213> hepatitis C virus

<400> 112

Asp Arg Arg Ala Thr Gly Arg Ser Trp Gly Arg
1 5 10

<210> 113

<211> 11

<212> PRT

<213> hepatitis C virus

<400> 113

Asp Arg Arg Ala Thr Gly Lys Ser Trp Gly Arg
1 5 10

<210> 114

<211> 11

<212> PRT

<213> hepatitis C virus

<400> 114

Val Arg Gln Pro Thr Gly Arg Ser Trp Gly Gln
1 5 10

<210> 115

<211> 11

<212> PRT

<213> hepatitis C virus

<400> 115

Val Arg His Gln Thr Gly Arg Thr Trp Ala Gln
1 5 10

<210> 116

<211> 11
<212> PRT
<213> hepatitis C virus

<400> 116

Val Arg Gln Asn Gln Gly Arg Thr Trp Ala Gln
1 5 10

<210> 117
<211> 11
<212> PRT
<213> hepatitis C virus

<400> 117

Ala Arg Arg Thr Glu Gly Arg Ser Trp Ala Gln
1 5 10

<210> 118
<211> 11
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (8)..(11)
<223> Xaa represents any amino acid

<400> 118

Val Arg Arg Thr Thr Gly Arg Xaa Xaa Xaa Xaa
1 5 10

<210> 119
<211> 11
<212> PRT
<213> hepatitis C virus

<400> 119

Val Arg Arg Thr Thr Gly Arg Thr Trp Ala Gln
1 5 10

<210> 120

<211> 12

<212> PRT

<213> hepatitis C virus

<400> 120

His Glu Val Arg Asn Ala Ser Gly Val Tyr His Val
1 5 10

<210> 121

<211> 12

<212> PRT

<213> hepatitis C virus

<400> 121

His Glu Val Arg Asn Ala Ser Gly Val Tyr His Leu
1 5 10

<210> 122

<211> 12

<212> PRT

<213> hepatitis C virus

<400> 122

Tyr Glu Val His Ser Thr Thr Asp Gly Tyr His Val
1 5 10

<210> 123

<211> 12

<212> PRT

<213> hepatitis C virus

<400> 123

Val Glu Val Lys Asn Thr Ser Gln Ala Tyr Met Ala
1 5 10

<210> 124

<211> 12

<212> PRT

<213> hepatitis C virus

<400> 124

Ile Gln Val Lys Asn Asn Ser His Phe Tyr Met Ala
1 5 10

<210> 125

<211> 12

<212> PRT

<213> hepatitis C virus

<400> 125

Val Gln Val Lys Asn Thr Ser Thr Met Tyr Met Ala
1 5 10

<210> 126

<211> 12

<212> PRT

<213> hepatitis C virus

<400> 126

Val Gln Val Lys Asn Thr Ser His Ser Tyr Met Val
1 5 10

<210> 127
<211> 12
<212> PRT
<213> hepatitis C virus

<400> 127

Val Gln Val Ala Asn Arg Ser Gly Ser Tyr Met Val
1 5 10

<210> 128
<211> 12
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (7)...(7)
<223> Xaa represents any amino acid

<400> 128

Val Glu Ile Lys Asn Thr Xaa Asn Thr Tyr Val Leu
1 5 10

<210> 129
<211> 12
<212> PRT
<213> hepatitis C virus

<400> 129

Val Glu Ile Lys Asn Thr Ser Asn Thr Tyr Val Leu
1 5 10

<210> 130
<211> 12
<212> PRT
<213> hepatitis C virus

<400> 130

Ile Asn Tyr Arg Asn Val Ser Gly Ile Tyr Tyr Val
1 5 10

<210> 131

<211> 12

<212> PRT

<213> hepatitis C virus

<400> 131

Ile Asn Tyr Arg Asn Thr Ser Gly Ile Tyr His Val
1 5 10

<210> 132

<211> 12

<212> PRT

<213> hepatitis C virus

<400> 132

Ile Asn Tyr His Asn Thr Ser Gly Ile Tyr His Ile
1 5 10

<210> 133

<211> 12

<212> PRT

<213> hepatitis C virus

<400> 133

Thr Asn Tyr Arg Asn Val Ser Gly Ile Tyr His Val
1 5 10

<210> 134

<211> 12

<212> PRT

<213> hepatitis C virus

<400> 134

Gln His Tyr Arg Asn Val Ser Gly Ile Tyr His Val
1 5 10

<210> 135

<211> 12

<212> PRT

<213> hepatitis C virus

<400> 135

Ile Gln Val Lys Asn Ala Ser Gly Ile Tyr His Leu
1 5 10

<210> 136

<211> 12

<212> PRT

<213> hepatitis C virus

<400> 136

Ala His Tyr Thr Asn Lys Ser Gly Leu Tyr His Leu
1 5 10

<210> 137

<211> 12

<212> PRT

<213> hepatitis C virus

<400> 137

Leu Asn Tyr Ala Asn Lys Ser Gly Leu Tyr His Leu
1 5 10

<210> 138
<211> 12
<212> PRT
<213> hepatitis C virus

<400> 138
Leu Glu Tyr Arg Asn Ala Ser Gly Leu Tyr Met Val
1 5 10

<210> 139
<211> 11
<212> PRT
<213> hepatitis C virus

<400> 139
Ile Tyr Glu Met Asp Gly Met Ile Met His Tyr
1 5 10

<210> 140
<211> 11
<212> PRT
<213> hepatitis C virus

<400> 140
Ile Tyr Glu Met Ser Gly Met Ile Leu His Ala
1 5 10

<210> 141
<211> 11
<212> PRT
<213> hepatitis C virus

<400> 141
Val Tyr Glu Ala Lys Asp Ile Ile Leu His Thr

1

5

10

<210> 142
<211> 11
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Xaa represents any amino acid

<400> 142

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<210> 143
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<213> hepatitis C virus

<400> 143

Val Trp Gln Leu Arg Asp Ala Val Leu His Val
1 5 10

<210> 144
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<212> PRT
<213> hepatitis C virus

<400> 144

Ile Trp Gln Met Gln Gly Ala Val Leu His Val
1 5 10

<210> 145

<211> 11
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<400> 145

Val Trp Gln Leu Lys Asp Ala Val Leu His Val
1 5 10

<210> 146
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<400> 146

Val Trp Gln Leu Glu Glu Ala Val Leu His Val
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<210> 147
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<213> hepatitis C virus

<220>
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<400> 147

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<210> 148
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<400> 148

Val Tyr Glu Ala Asp His His Ile Leu His Leu
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<211> 11

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<400> 149

Val Tyr Glu Ala Asp His His Ile Leu Ala Leu
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Val Phe Glu Ala Asp His His Ile Leu His Leu
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<400> 151

Val Tyr Glu Ser Asp His His Ile Leu His Leu
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<400> 152

Val Phe Glu Glu Thr Met Ile Leu His Leu
1 5 10

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<211> 11

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<400> 153

Val Tyr Glu Ala Glu Thr Leu Ile Leu His Leu
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<211> 11

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<400> 154

Val Tyr Glu Ala Asn Gly Met Ile Leu His Leu
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<400> 155

Val Tyr Glu Ala Gly Asp Ile Ile Leu His Leu
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<400> 156

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1 5 10

<210> 157
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<400> 157

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<210> 158
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<400> 158

Ile Arg Glu Gly Asn Ile Ser Arg Cys Trp Val Leu Pro
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Glu Asn Ser Ser Gly Arg Phe His Cys Trp Ile Pro Ile
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Glu Arg Ser Gly Asn Arg Thr Phe Cys Trp Thr Ala Val
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Glu Trp Lys Asp Asn Thr Ser Arg Cys Trp Ile Pro Val
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<400> 166

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Val Arg Val Gly Asn Gln Ser Arg Cys Trp Val Ala Leu
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Val Lys Glu Gly Asn His Ser Arg Cys Trp Val Ala Leu
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<222> (3)..(4)

<223> Xaa represents any amino acid

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<400> 173

Val Lys Thr Gly Asn Leu Thr Lys Cys Trp Leu Ser Ala
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<400> 174

Val Arg Ser Gly Asn Thr Ser Arg Cys Trp Ile Pro Val
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<400> 175

Val Lys Asn Ala Ser Val Pro Thr Ala Ala
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Val Lys Asp Ala Asn Val Pro Thr Ala Ala
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Ala Arg Ile Ala Asn Ala Pro Ile Asp Glu
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Val Ser Lys Pro Gly Ala Leu Thr Lys Gly
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Val Ser Arg Pro Gly Ala Leu Thr Arg Gly
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<400> 183

Val Ser Arg Pro Gly Ala Leu Thr Glu Gly
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<400> 184

Ala Pro Tyr Ile Gly Ala Pro Leu Glu Ser
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<400> 185

Ala Pro Tyr Thr Ala Ala Pro Leu Glu Ser
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<400> 186

Ala Pro Ile Leu Ser Ala Pro Leu Met Ser
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<400> 189

Val Gln Asn Ala Ser Val Ser Ile Arg Gly

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Ser Pro Arg Met His His Thr Thr Gln Glu
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<400> 192

Ser Pro Arg Leu Tyr His Thr Thr Gln Glu
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<400> 193

Thr Ser Arg Arg His Trp Thr Val Gln Asp
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<400> 195

Ser Pro Gln Tyr His Thr Phe Val Gln Glu
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<400> 196

Ser Pro Gln His His Asn Phe Ser Gln Asp
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Ser Pro Gln His His Ile Phe Val Gln Asp
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Ser Pro Glu His His His Phe Val Gln Asp
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<210> 201

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Gln Pro Arg Arg His Trp Thr Thr Gln Asp
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Gln Pro Arg Arg His Trp Thr Val Gln Asp
1 5 10

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Arg Pro Lys Tyr His Gln Val Thr Gln Asp
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Arg Pro Arg Met His Gln Val Val Gln Glu
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<400> 206

Arg Pro Arg Met Tyr Glu Ile Ala Gln Asp
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<400> 207

Arg His Arg Gln His Trp Thr Val Gln Asp
1 5 10

<210> 208
<211> 957
<212> DNA
<213> hepatitis C virus

<400> 208

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 <213> hepatitis C virus

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	ggccccaggt	tgggtgtgcg	cgcgactagg	aagacttccg	agcggtcgca	acctcggtga	180
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	tacccttggc	ccctctatgg	caacgagggt	atgggtggg	caggatggct	cctgtcaccc	300
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<213> hepatitis C virus

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<213> hepatitis C virus

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<213> hepatitis C virus

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	aggcgccagc	ccatccctaa	agatcgccgc	accactggca	agtccctgggg	aaggccagga	240
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<213> hepatitis C virus

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cgacgacagc ctatccccaa ggcgcgtcgg agcgaaggcc ggtcctggc tcagccccc 240
tacccttggc ccctctatgg taacgagggc tgcgggtggg cagggtgtggct cctgtcccc 300
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ccagtgacac ctacagtggc agtcaggtac gtcggagcaa ctactgcttc gatacgcagt 780
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tgtgggctg tctttctcgt gggacaagcc ttcacgttca gacctcgacg ccatcaaacg 900
gtccagacct gtaactgctc gctgtaccca ggccatctt caggacatcg aatggct 957

<210> 216
<211> 957
<212> DNA
<213> hepatitis C virus

<400> 216

atgagcacac	ttcctaaacc	tcaaagacaa	acaaaagaa	acacactccg	tcgcccacag	60
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cagcgtcacc	ttatccccaa	ggctcgctcg	cgcgagggcc	ggtcctggc	tcagccggg	240
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cgtggttctc	gcccttagttg	gggccccaaat	gaccccccggc	gtagatcccg	caactttggt	360
aaggtcatcg	ataccctaac	gtgtggattc	gccgacctca	tgggtacat	tccgctcgtc	420
ggcgccccctg	tggggggcgt	cgcaagagcc	ctcgctcatg	gtgtgagggc	acttggggac	480
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ttcggggctg	tgtttcttgt	gggacaagcg	ttcacctca	gacctcgccg	ccacacgacc	900
gtgcagacgt	gcaactgctc	gatataccca	ggccatgttt	caggacatcg	tatggcg	957

<210> 217
 <211> 957
 <212> DNA
 <213> hepatitis C virus

<400> 217	atgagcacac	ttccaaaacc	ccaaagaaaa	acaaaagaa	acaccatccg	tcgcccacag	60
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	ggccctctat	tgggtgtcg	cgctacacgt	aagacttccg	agcggtcaca	gcctcgcg	180
	cggccgcagc	ctatccccaa	ggcgcgtcg	ggcgagggac	ggtcctggc	tgagccggg	240
	tacccttggc	ccctctacgg	taatgagggc	tgcgggtggg	cgggatggct	cctgtcccc	300
	cgcggttctc	ggccgagctg	gggccccaaat	gaccccccggc	gaagatcccg	caatttgggt	360
	aaggtcatcg	atacccttac	atgcgggttc	gccgacctca	tgggtacat	tccgctcg	420

ggcgcccccg	tggggggcgt	tgcaagggcc	ctcgccatg	gcgtgagggc	tcttggaggac	480
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ctcttctcat	gcttggctcg	tcctgcagca	gggctcgagt	accggaatgt	atccggcctc	600
tacatactca	ccaatgactg	ttcgaacagc	agcatagtgt	atgaggccga	ccatgtcatc	660
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ccggtgactc	cgacagtggc	ggtcagtcac	gtcggtgca	ccaccgcac	gatccgcggg	780
cacgtggatc	tgctggtgg	tacggctaca	ttgtgttcgg	cactttacgt	cggtgacctt	840
tgccgggcag	tttcctcgt	aggacaagca	ttcacattca	gaccccgacg	ccaccagaca	900
tttcagcatt	gcaactgctc	actgtaccca	ggtcatgttt	caggtcatcg	gatggct	957

<210> 218
<211> 957
<212> DNA
<213> hepatitis C virus

<400> 218	atgagcacac	ttccaaaacc	ccaaagaaaa	acaaaaagaa	acaccatccg	tcgcccacag	60
	gacgttaagt	tcccggcgg	cggccagatc	gttggtggag	tctacttact	gccgcgcagg	120
	ggcccaagat	tgggtgtcg	cgcagttcg	aaaacttccg	agcggtcaga	accccgcaac	180
	cggccgcagc	ctatccccaa	ggcacgtcgg	agcgagggcc	ggtcctggc	tcagcctgg	240
	tacccttggc	ctctttatgg	caatgagggc	tgtggtggg	caggatggct	cttgcctccc	300
	cgcggctctc	ggccatcttg	gggccccaaat	gaccccgcc	gaaggctctcg	caacctgggt	360
	aaagtcatcg	ataccctaac	gtcggattc	gccgatctca	tgggtacat	tccgctcg	420
	ggcgctcctg	tagggggcgt	cgcagagct	ctcgcacatg	gtgtgagagc	ccttggaggac	480
	ggaataaaatt	tcgcaacagg	gaatttaccc	ggttgcctt	tctctatctt	cttgcttgct	540
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	ttgcacttgc	caggttgtgt	gcctgcgtt	caatcaggca	actcctcgca	atgctggatt	720
	ccggtggcac	caacagtggc	ggttaagtac	gctggcgca	ccactgcac	gatccgcagt	780
	catgtggatc	tgctggtggg	agctgctacg	ttgtgtccg	cgctgtatgt	tggcgatatg	840

tgtggagccg tcttcttggt gggacaggct ttcacccatca gacctcgta gcacaacacg 900
gtgcagaccc gcaattgctc actgtaccct ggtcacatat caggacacag gatggct 957

<210> 219
<211> 957
<212> DNA
<213> hepatitis C virus

<400> 219
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ggcccacat tgggtgtcg cgcaactcgt aagacttcag agcggtcaca accccgcgg 180
cggcgacagc ctattccaa ggcacgcccc agcggaggac ggtcctgggc gcagcctgg 240
tacccctggc ccctctatgg taacgagggc tgcgggtggg caggggtggct tctgtctcct 300
cgccgctccc gaccgagttg gggccccaac gaccccccggc gaaggtcccg caatttgggt 360
aaggtcatcg acactctcac atgcgggttc gccgatctca tgggtatata tccgctcg 420
ggcgctccgg taggaggcgt cgcgagggcc ctcgcacacg gggtaagggc tctcgaggac 480
ggaataaatt ttgcaacagg gaacccccc ggttgcctt tttctatctt cttgcttgct 540
ctgctgtcat gcttgctttg ccctgcagtc ggggtggagg ttcgcaacgc atccggctc 600
tacatgctca ccaatgactg ctcaaacacgc agcatagttt atgaggcgg 660
ctgcacatgc ctgggtgcgt tccctgcgtc cagaacggca acacatcg 720
ccggcgacac caacgggtggc agtcagatac gctggtgcaa cgacggcttc cgtacgcgg 780
cacgtggatt tgctagtcgg cagtgcact ctgtgcctcg cgctctatgt cggtgacctt 840
tgccggggccg tcttccttggg gggcaggcc tttacattca ggcctcgta tcatacgact 900
gtccagaccc gcaactgctc gttgtaccca ggccatatac caggacatcg catggca 957

<210> 220
<211> 957
<212> DNA
<213> hepatitis C virus

BEST AVAILABLE

<400> 220
atgagcacat ttcctaaacc tcaaagacaa cccaaaagaa acacaccccg ccgcccacag 60
gacgtcaagt tcccgggcgg tggcagatc gttggtggag tatacgtatt gccgcgcagg 120
ggcccacat tgggtgtcg cgcaatgcgt aaatcttccg agcggtcgca acctcgccga 180
cggcggcagc ctatccccaa ggcacgcccga agcgagggcc ggtcctggc ccagcctggg 240
tacccttggc ccctctatgg gaatgagggc tgggtggc caggatggct cctgtctccc 300
cgtggctccc gcccctatgg gggcccaa at gaccccccgc gtagatcactg caacttgggt 360
aaggtcatcg ataccctcac gtgtggattc gcccgtctca tgggttacat tccgctcggt 420
ggtgcccccg tagggggcgt cgcaagggcc ctagcacatg gtgtgagggc ttttgggac 480
ggaataaaact ttgcaacagg gaatttgcgc ggttgcctt tttctatctt ctttcttgct 540
ctttctcat gcttggtttc ccccgacgc gggcttagatg acaggaacac gtccggccta 600
tacatactta ccaacgactg ctctaacagc agcatcgatg atgaggctga taatgtcatc 660
ctgcacatgc cccggctgtgt gcccgtca cgcgagggtt accagtcaag gtgtggacg 720
ccagtaacac cgacagtggc tggcaacat cctggcgcag tcaccgcata aatccgcagg 780
catgtggatt tggatgggg tgcagccacg ctgtgttcag cactctatgt tggagatgg 840
tgcggggctg ttttcttgc gggccaaatcg ttcaatccat gagctcggca acattataacc 900
gtccagttgt gcaattgctc actataccca ggacacatta caggacatca tatggct 957

<210> 221
<211> 957
<212> DNA
<213> hepatitis C virus

<400> 221
atgagcacga atcctaaacc tcaaagaaaa accaaacgta acaccaacccg ccgccccatg 60
gacgtaaagt tcccgggtgg tggccagatc gttggcggag tttacttgc ggcgcgcagg 120
ggcccccaggat tgggtgtcg cgcaatgcgt aagacttcgg agcggtcgca acctcgccga 180
aggcgtcaac ctatccccaa ggccgcgcac ccagaggccg gatcctggc gcagccgggg 240
tacccttggc ccctctatgg caatgagggc tgggtggc cagggtggct cctgtctcc 300
cgccggcttc ggcctatgg gggcccaa at gatccccggc ggagatcgca caatctgggt 360
aaggtcatcg ataccctgac gtgcggcttc gcccgtctca tggatacat cccgatcggt 420

BEST AVAILABLE COPY

ggcgcccccg	tggggggcgt	cggcaggcgt	ctggcgcatg	gcgtcagggc	tgtggaggac	480	
gggat	taact	atgcaacagg	aatctccc	ggttgc	tcttatctt	cctttggca	540
cttcttcgt	gcctcactgt	tccagcgtcg	gctgagcact	accggaatgc	ttcgggcac	600	
tatcacatca	ccaatgattt	tccgaattcc	agtatagtct	atgaagctga	ccatcacatc	660	
ctacacttgc	cgggggtgcgt	accctgtgtg	atgactggga	acacatcg	ttgctggacg	720	
ccggtgacgc	ctacagtggc	tgtgcacac	ccgggcgtc	cgcttgc	gttccggcga	780	
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tgccggaggtg	ccttcctgat	ggggcagatg	atcactttc	ggccgcgtcg	ccactggacc	900	
acgcaggagt	gcaattgttc	catctacact	ggccat	atca	ccggccacag	gatggcg	957

<210> 222
<211> 957
<212> DNA
<213> hepatitis C virus

<400> 222	atgagcacaa	atcctaaacc	tcaaagaaaa	accaaacgta	acaccaaccc	tgcggccatg	60
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ggccccccgt	tgggtgtcg	cgcagctcg	aagacttcgg	agcggtcaca	acctcg	tgcc	180
aggcgtcagc	ctatccccaa	ggcgcccg	tccgagggca	ggtcctggc	tcagccc	ggg	240
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cgcgttcca	ggccgtctt	ggggccaaat	gatccccggc	gtaggtccc	taatctgg	gt	360
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ggcgccccctg	tgggtggcgt	cggcagg	ctggcgcatg	gcgtcagggc	cgtggaggac	cc	480
ggaattaaact	acgcaacagg	gaac	ttcc	ggttgc	tcttatctt	tcttcttgca	540
cttctctcg	gcctgacaac	accagcatct	gccgtgc	act	accggaatgc	ttcgggcgtc	600
tatcatgtca	ccaatgattt	cccta	acacc	agcatagtgt	acgagacg	ga	660
atgcacttgc	cagggtgtgt	ccc	ctgt	gttgc	ggaga	atacttctcg	720
cccttgaccc	ccactgtggc	cgcgc	ccat	ccaa	acgcac	cgttagagtc	780
catgttagacc	tgtatggtggg	tgcgg	ctact	atgtgttcc	ccttctacat	tggagatctg	840

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tgtggaggcg tcttcctagt gggccagctg ttgcacttcc gaccgcgccc gcactggacc	900
acccaggatt gcaactgctc catctatcct ggtcacgtct cgggccacag gatggcc	957

<210> 223
<211> 957
<212> DNA
<213> hepatitis C virus

<400> 223	
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ggcccccagggt tgggtgtgcg cgccactagg aagacttcgg agccgtcgca acctcggtgg	180
agacgtcagc ctatccccaa ggcacgtcgta tctgagggaa ggtccctgggc tcagccccgg	240
tacccatggc ctctttacgg taatgaggggt tgcgggtggg cgggatggct cctgtcacct	300
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gccctcaactc ccaccgtggc ggcgccttac atcggcgctc cgcttgaatc cctccggagt	780
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tgcggtggcg tattttgggt tggtcagatg ttctcttcc agccgcggcg ccactggact	900
acgcaggact gcaattgttc catctacgctg gggcacgtta cgggccacag gatggca	957

<210> 224
<211> 957
<212> DNA
<213> hepatitis C virus

BEST AVAILABLE

<400> 224
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ggccctagat tgggtgtgcg cgcgactagg aagacttcgg agcggtcgca acctcggtgg 180
aggcgccagc ctatccccaa ggccgcggaa ctcgagggtt ggtcctggc tcagcctggg 240
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tgtgggggtg tggatggtggg cggtcaactg ttcaccttcc aacctcgccg ccactggacc 900
accctaaqact qcaattgttc catctacaca qqacatataca caggacacag aatggct 957

<210> 225
<211> 957
<212> DNA
<213> hepatitis C virus

<400> 225
atgagcacga atcctaaact tcaaagaaaa accaaacgta acaccaacccg ccgccccatg 60
gacgttaagt tcccggttgg tggccagatc gttggcggag tttacttgg tccgcgcagg 120
ggcccttaggt tgggtgtgcg cgcgactcg 180
aagacttcgg agcggtcgca acctcgtggg
aggcgccaac ctatccccaa ggcgcgccga tccgagggca gatctggc gcagccccgg 240
tatccttggc cccttacgg caatgagggc tgtgggtgg cagggtggct cctgtccccct 300
cgcggtctc ggcgttttgg gggccctaat gatccccggc ggaggtccccg caacctgggt 360

BEST AVAILABLE COPY

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gcctcactc ccacagtggc gtcgccttac gtcggcgtc cgctcgagcc cttgcggcgc	780
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<210> 226
<211> 957
<212> DNA
<213> hepatitis C virus

<400> 226	
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ggccctagga tgggtgtcg cgcgactcgg aagacttcgg aacggtcgca accccgtgga	180
cggcgctcgc ctattccaa ggcgcgccag cccacgggccc ggtcctgggg tcaaccggg	240
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tatcatgtta ccaatgattt cccaaactct tccatagtct atgaggcaga taacctgatc	660
ctacacgcac ctgggtgcgt gccttgcgt atgacaggtt atgtgagtag atgctgggtc	720
caaattaccc ctacactgtc agccccgagc ctcggagcag tcacggctcc tttcggaga	780

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gccgttact acctagcggg aggggctgcc ctctgctccg cgttataacgt aggagacg	840
tgtggggcac tattcttggt aggccaaatg ttcacctata ggccctgcca gcacgctacg	900
gtgcagaact gcaactgttc catttacagt ggccatgtta cccggccacccg gatggca	957

<210> 227
<211> 957
<212> DNA
<213> hepatitis C virus

<400> 227	
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ggccccccgt tgggtgtgcg cgcgacgaga aagacttccg agcgatccca gcccagaggc	180
aggcgccaaac ctataccaaa ggcgcgcccag ccccaggggca ggcactgggc tcagccccga	240
tacccttggc ctctttatgg aaacgagggc tgtgggtggg caggttggct cctgtcccc	300
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gtgcaagact gcaactgctc catctataca ggccacgtca cccggccacag gatggct	957

<210> 228
<211> 957
<212> DNA
<213> hepatitis C virus

<220>

BEST AVAILABLE COPY

<221> misc_feature
<222> (383)..(383)
<223> n represents any nucleotide

<220>
<221> misc_feature
<222> (387)..(387)
<223> n represents any nucleotide

<220>
<221> misc_feature
<222> (924)..(924)
<223> n represents any nucleotide

<220>
<221> misc_feature
<222> (928)..(928)
<223> n represents any nucleotide

<400> 228	
atgagcacac ttccaaaacc ccaaagaaaa accaaaagaa atactaaccg tcgcccattg	60
gacgtcaagt tccccggcgg cggccagatc gttgggtggag tttacttgtt gccgcgcagg	120
ggccctcggt tgggtgtgcg cgcgacgaga aagacctccg aacggtccc gcctagaggc	180
aggcgccagc ccataccaaa ggtacgccag ccgacaggcc gtagctgggg tcaacccggc	240
tacccttggc ccctttatgg caacgagggc tgcggatggg cgggatggct cctgtccccc	300
cgcgggtctc gtcctaattg gggcccaac gaccccccgc gaaggtcccg caacttgggt	360
aaggtcatcg atacccttac atncggncta gccgacctca tgggtacat ccctgtccta	420
ggagggccgc ttggcggcgt tgccgctgcc ctggcgcatg gcgttagggc aatcgaggac	480
ggggtcaatt acgcaacagg gaatttcct gttgctcct tttctatctt cctcttagca	540
ctgttatcgt gcctcaactac accagcctca gcaattcaag tcaagaacgc ctctggatc	600
taccatctta ccaatgactg ctgcacaac agcatcgtt ttgaggcggg gaccatgata	660
ctgcatcttc caggttgtgt cccatgtatc aaggcgggaa atgagtcacg atgttggctc	720
cctgtctccc ccaccttagc cgtcccaac tcatcagtgc caatccacgg gtttcggcga	780

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cacgtagacc	tcctcggtgg	ggcagcggca	ttttgttcgg	ccatgtacat	cgagacctc	840
tgtggtagca	taatcttggt	agggcagctt	tttactttca	ggcctaagta	ccatcagggtt	900
accaggatt	gttaactgctc	tatnaacnct	ggccacgtca	cgggacacag	gatggca	957

<210> 229
<211> 319
<212> PRT
<213> hepatitis C virus

<400> 229

Met Ser Thr Asn Pro Lys Pro Gln Lys Lys Asn Lys Arg Asn Thr Asn
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Ala Arg Arg Pro Glu Gly Arg Thr Trp Ala Gln Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Thr Asp Pro
100 105 110

Arg Arg Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala Pro Leu
130 135 140

Gly Gly Ala Ala Arg Ala Leu Ala His Gly Val Arg Val Leu Glu Asp
145 150 155 160

BEST AVAILABLE

Gly Val Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile
165 170 175

Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser Ala Tyr
180 185 190

Gln Val Arg Asn Ser Thr Gly Leu Tyr His Val Thr Asn Asp Cys Pro
195 200 205

Asn Ser Ser Ile Val Tyr Glu Ala Ala Asp Ala Ile Leu His Thr Pro
210 215 220

Gly Cys Val Pro Cys Val Arg Glu Gly Asn Ala Ser Arg Cys Trp Val
225 230 235 240

Ala Met Thr Pro Thr Val Ala Thr Arg Asp Gly Lys Leu Pro Ala Thr
245 250 255

Gln Leu Arg Arg His Ile Asp Leu Leu Val Gly Ser Ala Thr Leu Cys
260 265 270

Ser Ala Leu Tyr Val Gly Asp Leu Cys Gly Ser Val Phe Leu Val Gly
275 280 285

Gln Leu Phe Thr Phe Ser Pro Arg Arg His Trp Thr Thr Gln Gly Cys
290 295 300

Asn Cys Ser Ile Tyr Pro Gly His Ile Thr Gly His Arg Met Ala
305 310 315

<210> 230
<211> 319
<212> PRT
<213> hepatitis C virus

<400> 230

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly

BEST AVAILABLE CO

20

25

30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Ala Arg Arg Pro Glu Gly Arg Thr Trp Ala Gln Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Met Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Thr Asp Pro
100 105 110

Arg Arg Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala Pro Leu
130 135 140

Gly Gly Ala Ala Arg Ala Leu Ala His Gly Val Arg Val Leu Glu Asp
145 150 155 160

Gly Val Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile
165 170 175

Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Ile Pro Ala Ser Ala Tyr
180 185 190

Glu Val Arg Asn Val Ser Gly Ile Tyr His Val Thr Asn Asp Cys Ser
195 200 205

Asn Ser Ser Ile Val Tyr Glu Ala Ala Asp Met Ile Met His Thr Pro
210 215 220

Gly Cys Val Pro Cys Val Arg Glu Ser Asn Phe Ser Arg Cys Trp Val
225 230 235 240

Ala Leu Thr Pro Thr Leu Ala Ala Arg Asn Ser Ser Ile Pro Thr Thr
245 250 255

BEST AVAILABLE COPY

Thr Ile Arg Arg His Val Asp Leu Leu Val Gly Ala Ala Ala Leu Cys
260 265 270

Ser Ala Met Tyr Val Gly Asp Leu Cys Gly Ser Val Phe Leu Val Ser
275 280 285

Gln Leu Phe Thr Phe Ser Pro Arg Arg Tyr Glu Thr Val Gln Asp Cys
290 295 300

Asn Cys Ser Ile Tyr Pro Gly His Val Ser Gly His Arg Met Ala
305 310 315

<210> 231
<211> 319
<212> PRT
<213> hepatitis C virus

<400> 231

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Asp Arg Arg Ser Thr Gly Lys Ser Trp Gly Lys Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Leu Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Asn Asp Pro
100 105 110

BEST AVAILABLE COPY

Arg His Arg Ser Arg Asn Val Gly Lys Val Ile Asp Thr Leu Thr Cys
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Val Val Gly Ala Pro Leu
130 135 140

Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Val Leu Glu Asp
145 150 155 160

Gly Val Asn Phe Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile
165 170 175

Phe Leu Leu Ala Leu Leu Ser Cys Ile Thr Thr Pro Val Ser Ala Ala
180 185 190

Glu Val Lys Asn Ile Ser Thr Gly Tyr Met Val Thr Asn Asp Cys Thr
195 200 205

Asn Asp Ser Ile Thr Trp Gln Leu Gln Ala Ala Val Leu His Val Pro
210 215 220

Gly Cys Val Pro Cys Glu Lys Val Gly Asn Thr Ser Arg Cys Trp Ile
225 230 235 240

Pro Val Ser Pro Asn Val Ala Val Gln Gln Pro Gly Ala Leu Thr Gln
245 250 255

Gly Leu Arg Thr His Ile Asp Met Val Val Met Ser Ala Thr Leu Cys
260 265 270

Ser Ala Leu Tyr Val Gly Asp Leu Cys Gly Gly Val Met Leu Ala Ala
275 280 285

Gln Met Phe Ile Val Ser Pro Gln His His Trp Phe Val Gln Asp Cys
290 295 300

Asn Cys Ser Ile Tyr Pro Gly Thr Ile Thr Gly His Arg Met Ala
305 310 315

<210> 232

<211> 319

<212> PRT

<213> hepatitis C virus

BEST AVAILABLE COPY

<400> 232

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Asp Arg Arg Ser Thr Gly Lys Ser Trp Gly Lys Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Thr Trp Gly Pro Thr Asp Pro
100 105 110

Arg His Arg Ser Arg Asn Leu Gly Arg Val Ile Asp Thr Ile Thr Cys
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Val Val Gly Ala Pro Val
130 135 140

Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Val Leu Glu Asp
145 150 155 160

Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile
165 170 175

Phe Leu Leu Ala Leu Leu Ser Cys Val Thr Val Pro Val Ser Ala Val
180 185 190

Glu Val Arg Asn Ile Ser Ser Tyr Tyr Ala Thr Asn Asp Cys Ser
195 200 205

BEST AVAILABLE COPY

Asn Asn Ser Ile Thr Trp Gln Leu Thr Asp Ala Val Leu His Leu Pro
210 215 220

Gly Cys Val Pro Cys Glu Asn Asp Asn Gly Thr Leu His Cys Trp Ile
225 230 235 240

Gln Val Thr Pro Asn Val Ala Val Lys His Arg Gly Ala Leu Thr Arg
245 250 255

Ser Leu Arg Thr His Val Asp Met Ile Val Met Ala Ala Thr Ala Cys
260 265 270

Ser Ala Leu Tyr Val Gly Asp Val Cys Gly Ala Val Met Ile Leu Ser
275 280 285

Gln Ala Phe Met Val Ser Pro Gln Arg His Asn Phe Thr Gln Glu Cys
290 295 300

Asn Cys Ser Ile Tyr Gln Gly His Ile Thr Gly His Arg Met Ala
305 310 315

<210> 233
<211> 319
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (319)..(319)
<223> Xaa represents any amino acid

<400> 233

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala
35 40 45

BEST AVAILABLE COPY

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Asp Arg Arg Thr Thr Gly Lys Ser Trp Gly Arg Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Leu Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Thr Asp Pro
100 105 110

Arg His Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Val Val Gly Ala Pro Val
130 135 140

Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Val Leu Glu Asp
145 150 155 160

Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile
165 170 175

Phe Leu Ser Ala Leu Leu Ser Cys Ile Ser Val Pro Val Ser Ala Val
180 185 190

Glu Val Lys Asn Thr Ser Thr Ser Tyr Met Val Thr Asn Asp Cys Ser
195 200 205

Asn Ser Ser Ile Val Trp Gln Leu Glu Gly Ala Val Leu His Thr Pro
210 215 220

Gly Cys Val Pro Cys Glu Gln Ile Gly Asn Ala Ser Arg Cys Trp Val
225 230 235 240

Pro Val Ser Pro Asn Val Ala Ile Arg Gln Pro Gly Thr Leu Thr Lys
245 250 255

Gly Leu Arg Ala His Val Asp Val Ile Val Met Ser Ala Thr Leu Cys
260 265 270

BEST AVAILABLE COPY

Ser Ala Leu Tyr Val Gly Asp Val Cys Gly Ala Leu Met Ile Ala Ala
275 280 285

Gln Ala Val Ile Ala Ser Pro Gln Arg His Thr Phe Val Gln Glu Cys
290 295 300

Asn Cys Ser Ile Tyr Pro Gly His Ile Thr Gly His Arg Met Xaa
305 310 315

<210> 234
<211> 319
<212> PRT
<213> hepatitis C virus

<400> 234

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Asp Arg Arg Pro Thr Gly Lys Ser Trp Gly Lys Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Leu Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Thr Asp Pro
100 105 110

Arg His Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Val Val Gly Ala Pro Val

BEST AVAILABLE COPY

130

135

140

Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Val Leu Glu Asp
145 150 155 160

Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile
165 170 175

Phe Leu Leu Ala Leu Leu Ser Cys Ile Thr Val Pro Val Ser Gly Leu
180 185 190

Gln Val Lys Asn Thr Ser Ser Tyr Met Val Thr Asn Asp Cys Gln
195 200 205

Asn Ser Ser Ile Val Trp Gln Leu Arg Asp Ala Val Leu His Val Pro
210 215 220

Gly Cys Val Pro Cys Glu Glu Lys Gly Asn Ile Ser Arg Cys Trp Ile
225 230 235 240

Pro Val Ser Pro Asn Ile Ala Val Ser Gln Pro Gly Ala Leu Thr Lys
245 250 255

Gly Leu Arg Thr His Ile Asp Thr Ile Ile Ala Ser Ala Thr Phe Cys
260 265 270

Ser Ala Leu Tyr Ile Gly Asp Leu Cys Gly Ala Val Met Leu Ala Ser
275 280 285

Gln Val Phe Ile Ile Ser Pro Gln His His Lys Phe Val Gln Asp Cys
290 295 300

Asn Cys Ser Ile Tyr Pro Gly His Ile Thr Gly His Arg Met Ala
305 310 315

<210> 235
<211> 419
<212> PRT
<213> hepatitis C virus

<400> 235

Met Ser Thr Leu Pro Lys Pro Gln Arg Gln Thr Lys Arg Asn Thr Leu
1 5 10 15

Arg Arg Pro Gln Asn Val Lys Phe Pro Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Val Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala
35 40 45

Val Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Lys Gln Arg His Leu
50 55 60

Ile Pro Lys Ala Arg Ser Arg Glu Gly Arg Ser Trp Ala Gln Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Lys Gly Cys Gly Leu Ala Gly Trp
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Asn Asp Pro
100 105 110

Arg Arg Arg Ser Arg Asn Phe Gly Lys Val Ile Asp Thr Leu Thr Cys
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala Pro Val
130 135 140

Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Ala Leu Gly Asp
145 150 155 160

Gly Val Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile
165 170 175

Phe Leu Leu Ala Leu Phe Ser Cys Leu Thr Cys Pro Ala Ser Gly Leu
180 185 190

Glu Tyr Thr Asn Thr Ser Gly Leu Tyr Val Leu Thr Asn Asp Cys Ser
195 200 205

Asn Gly Ser Ile Val Tyr Glu Ala Glu Asp Val Ile Leu His Leu Pro
210 215 220

Gly Cys Val Pro Cys Val Thr Thr Gly Asn Gln Ser Ser Cys Trp Thr
225 230 235 240

Thr Val Ser Thr Thr Val Ala Val Arg Thr Leu Gly Val Thr Thr Ala
245 250 255

Ser Ile Arg Thr His Val Asp Met Leu Val Gly Ala Arg Gln Leu Cys
260 265 270

Ser Ala Leu Tyr Val Gly Asp Ala Phe Gly Ala Val Phe Leu Val Gly
275 280 285

Gln Ala Phe Thr Phe Arg Pro Arg Arg His Thr Thr Val Gln Thr Cys
290 295 300

Asn Cys Ser Ile Tyr Pro Gly His Val Ser Gly His Arg Met Ala Trp
305 310 315 320

Asp Met Met Met Asn Trp Ser Pro Thr Ile Gly Leu Val Ile Ser His
325 330 335

Leu Met Arg Leu Pro Gln Thr Leu Phe Asp Leu Val Ser Gly Thr His
340 345 350

Trp Gly Val Met Ala Gly Leu Ala Tyr Phe Ser Met Gln Gly Asn Trp
355 360 365

Ala Lys Val Val Ile Val Leu Ile Met Phe Ser Gly Val Asp Ala Asn
370 375 380

Thr Tyr Thr Thr Ala Gly Ser Met Ala Gln Ser Ile Tyr Arg Leu Thr
385 390 395 400

Asp Ile Phe Ser Thr Gly Pro Ser Gln Lys Leu Gln Leu Val Asn Ser
405 410 415

Asn Gly Ser

<210> 236
<211> 383
<212> PRT
<213> hepatitis C virus

<400> 236

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn
1 5 10 15

Arg Arg Pro Met Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Ala Arg Gln Leu Glu Gly Arg Ser Trp Ala Gln Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Asn Asp Pro
100 105 110

Arg Arg Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Val Val Gly Ala Pro Val
130 135 140

Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Leu Leu Glu Asp
145 150 155 160

Gly Val Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile
165 170 175

Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser Ala Tyr
180 185 190

Asn Tyr Arg Asn Ser Ser Gly Val Tyr His Val Thr Asn Asp Cys Pro
195 200 205

Asn Ser Ser Ile Val Tyr Glu Thr Asp Tyr His Ile Leu His Leu Pro
210 215 220

Gly Cys Val Pro Cys Val Arg Glu Gly Asn Lys Ser Thr Cys Trp Val
225 230 235 240

Ser Leu Thr Pro Thr Val Ala Ala Gln His Leu Asn Ala Pro Leu Glu
245 250 255

Ser Leu Arg Arg His Val Asp Leu Met Val Gly Gly Ala Thr Leu Cys
260 265 270

Ser Ala Leu Tyr Ile Gly Asp Val Cys Gly Gly Val Phe Leu Val Gly
275 280 285

Gln Leu Phe Thr Phe Gln Pro Arg Arg His Trp Thr Thr Gln Asp Cys
290 295 300

Asn Cys Ser Ile Tyr Thr Gly His Ile Thr Gly His Arg Met Ala Trp
305 310 315 320

Asp Met Met Met Asn Trp Ser Pro Thr Ala Thr Leu Val Leu Ala Gln
325 330 335

Leu Met Arg Ile Pro Gly Ala Met Val Asp Leu Leu Ala Gly Gly His
340 345 350

Trp Gly Ile Leu Val Gly Ile Ala Tyr Phe Ser Met Gln Ala Asn Trp
355 360 365

Ala Lys Val Ile Leu Val Leu Phe Leu Phe Ala Gly Val Asp Ala
370 375 380

<210> 237
<211> 319
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (102)..(102)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE
<222> (105)..(105)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE
<222> (114)..(114)
<223> Xaa represents any amino acid

<400> 237

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn
1 5 10 15

Arg Arg Pro Met Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Ala Arg Arg Thr Glu Gly Arg Ser Trp Ala Gln Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro Arg Xaa Ser Arg Xaa Ser Trp Gly Pro Asn Asp Pro
100 105 110

Arg Xaa Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala Pro Val
130 135 140

Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Ala Val Glu Asp

145

150

155

160

Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile
165 170 175

Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Thr Ser Ala Val
180 185 190

Asn Tyr Arg Asn Ala Ser Gly Ile Tyr His Ile Thr Asn Asp Cys Pro
195 200 205

Asn Ala Ser Ile Val Tyr Glu Thr Glu Asn His Ile Leu His Leu Pro
210 215 220

Gly Cys Val Pro Cys Val Arg Thr Gly Asn Gln Ser Arg Cys Trp Val
225 230 235 240

Ala Leu Thr Pro Thr Val Ala Ser Pro Tyr Ala Gly Ala Pro Leu Glu
245 250 255

Pro Leu Arg Arg His Val Asp Leu Met Val Gly Ala Ala Thr Met Cys
260 265 270

Ser Ala Leu Tyr Ile Gly Asp Leu Cys Gly Gly Leu Phe Leu Val Gly
275 280 285

Gln Met Phe Thr Phe Gln Pro Arg Arg His Trp Thr Thr Gln Asp Cys
290 295 300

Asn Cys Ser Ile Tyr Thr Gly His Ile Thr Gly His Arg Met Ala
305 310 315

<210> 238
<211> 319
<212> PRT
<213> hepatitis C virus

<400> 238

Met Ser Thr Asn Pro Lys Leu Gln Arg Lys Thr Lys Arg Asn Thr Asn
1 5 10 15

Arg Arg Pro Met Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Ala Arg Arg Ser Glu Gly Arg Ser Trp Ala Gln Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Asn Asp Pro
100 105 110

Arg Arg Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala Pro Val
130 135 140

Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Ala Val Glu Asp
145 150 155 160

Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile
165 170 175

Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser Gly Val
180 185 190

Asn Tyr Arg Asn Ala Ser Gly Val Tyr His Ile Thr Asn Asp Cys Pro
195 200 205

Asn Ala Ser Ile Val Tyr Glu Thr Asp Asn His Ile Leu His Leu Pro
210 215 220

Gly Cys Val Pro Cys Val Lys Thr Gly Asn Gln Ser Arg Cys Trp Val
225 230 235 240

Ala Leu Thr Pro Thr Val Ala Ser Pro Tyr Val Gly Ala Pro Leu Glu
245 250 255

Pro Leu Arg Arg His Val Asp Leu Met Val Gly Ala Ala Thr Val Cys
260 265 270

Ser Ala Leu Tyr Val Gly Asp Leu Cys Gly Gly Leu Phe Leu Val Gly
275 280 285

Gln Met Phe Thr Phe Gln Pro Arg Arg His Trp Thr Thr Gln Asp Cys
290 295 300

Asn Cys Ser Ile Tyr Ala Gly His Ile Thr Gly His Arg Met Ala
305 310 315

<210> 239
<211> 319
<212> PRT
<213> hepatitis C virus

<400> 239

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Met Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Ala Arg Gln Pro Thr Gly Arg Ser Trp Gly Gln Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Ala Asn Glu Gly Leu Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Asn Trp Gly Pro Asn Asp Pro
100 105 110

Arg Arg Lys Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Gly Pro Ile
130 135 140

Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Val Leu Glu Asp
145 150 155 160

Gly Val Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile
165 170 175

Phe Ile Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser Ala Val
180 185 190

Pro Tyr Arg Asn Ala Ser Gly Ile Tyr His Val Thr Asn Asp Cys Pro
195 200 205

Asn Ser Ser Ile Val Tyr Glu Ala Asp Asn Leu Ile Leu His Ala Pro
210 215 220

Gly Cys Val Pro Cys Val Met Thr Gly Asn Val Ser Arg Cys Trp Val
225 230 235 240

Gln Ile Thr Pro Thr Leu Ser Ala Pro Ser Leu Gly Ala Val Thr Ala
245 250 255

Pro Leu Arg Arg Ala Val Asp Tyr Leu Ala Gly Gly Ala Ala Leu Cys
260 265 270

Ser Ala Leu Tyr Val Gly Asp Ala Cys Gly Ala Leu Phe Leu Val Gly
275 280 285

Gln Met Phe Thr Tyr Arg Pro Arg Gln His Ala Thr Val Gln Asn Cys
290 295 300

Asn Cys Ser Ile Tyr Ser Gly His Val Thr Gly His Arg Met Ala
305 310 315

<210> 240

<211> 383

<212> PRT

<213> hepatitis C virus

<400> 240

Met Ser Thr Leu Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn
1 5 10 15

Arg Arg Pro Thr Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Ala Arg Gln Pro Gln Gly Arg His Trp Ala Gln Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro His Trp Gly Pro Asn Asp Pro
100 105 110

Arg Arg Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Val Val Gly Ala Pro Leu
130 135 140

Gly Gly Val Ala Ala Ala Leu Ala His Gly Val Arg Ala Ile Glu Asp
145 150 155 160

Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile
165 170 175

Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Thr Pro Ala Ser Ala Leu
180 185 190

Thr Tyr Gly Asn Ser Ser Gly Leu Tyr His Leu Thr Asn Asp Cys Pro

195

200

205

Asn Ser Ser Ile Val Leu Glu Ala Asp Ala Met Ile Leu His Leu Pro
210 215 220

Gly Cys Leu Pro Cys Val Arg Val Asp Asp Arg Ser Thr Cys Trp His
225 230 235 240

Ala Val Thr Pro Thr Leu Ala Ile Pro Asn Ala Ser Thr Pro Ala Thr
245 250 255

Gly Phe Arg Arg His Val Asp Leu Leu Ala Gly Ala Ala Val Val Cys
260 265 270

Ser Ser Leu Tyr Ile Gly Asp Leu Cys Gly Ser Leu Phe Leu Ala Gly
275 280 285

Gln Leu Phe Thr Phe Gln Pro Arg Arg His Trp Thr Val Gln Asp Cys
290 295 300

Asn Cys Ser Ile Tyr Thr Gly His Val Thr Gly His Arg Met Ala Trp
305 310 315 320

Asp Met Met Met Asn Trp Ser Pro Thr Thr Thr Leu Val Leu Ser Ser
325 330 335

Ile Leu Arg Val Pro Glu Ile Cys Ala Ser Val Ile Phe Gly Gly His
340 345 350

Trp Gly Ile Leu Leu Ala Val Ala Tyr Phe Gly Met Ala Gly Asn Trp
355 360 365

Leu Lys Val Leu Ala Val Leu Phe Leu Phe Ala Gly Val Glu Ala
370 375 380

<210> 241
<211> 193
<212> PRT
<213> hepatitis C virus

<400> 241

Thr Cys Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala
1 5 10 15

Pro Val Gly Gly Val Ala Arg Ala Leu Glu His Gly Val Arg Ala Val
20 25 30

Glu Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe
35 40 45

Ser Ile Ser Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Thr Ser
50 55 60

Ala Val Asn Tyr Arg Asn Ala Ser Gly Val Tyr His Ile Thr Asn Asp
65 70 75 80

Cys Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp Tyr His Ile Leu His
85 90 95

Leu Pro Gly Cys Leu Pro Cys Val Arg Val Gly Asn Gln Ser Arg Cys
100 105 110

Trp Val Ala Leu Thr Pro Thr Val Ala Ala Pro Tyr Val Gly Ala Pro
115 120 125

Leu Glu Ser Leu Arg Ser His Val Asp Leu Met Val Gly Ala Ala Thr
130 135 140

Val Cys Ser Ala Leu Tyr Ile Gly Asp Leu Cys Gly Gly Val Phe Leu
145 150 155 160

Val Gly Gln Met Phe Ser Phe Gln Pro Arg Arg His Trp Thr Thr Gln
165 170 175

Asp Cys Asn Cys Ser Ile Tyr Ala Gly His Val Thr Gly His Arg Met
180 185 190

Ala

<210> 242
<211> 193
<212> PRT

<213> hepatitis C virus

<400> 242

Thr Cys Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala
1 5 10 15

Pro Val Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Ala Val
20 25 30

Glu Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe
35 40 45

Ser Ile Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser
50 55 60

Ala Val His Tyr His Asn Thr Ser Gly Ile Tyr His Leu Thr Asn Asp
65 70 75 80

Cys Pro Asn Ser Ser Ile Val Phe Glu Ala Val His His Ile Leu His
85 90 95

Leu Pro Gly Cys Val Pro Cys Val Arg Thr Gly Asn Gln Ser Arg Cys
100 105 110

Trp Val Ala Leu Thr Pro Thr Leu Ala Ala Pro Tyr Leu Gly Ala Pro
115 120 125

Leu Glu Ser Met Arg Arg His Val Asp Leu Met Val Gly Thr Ala Thr
130 135 140

Leu Cys Ser Ala Leu Tyr Val Gly Asp Leu Cys Gly Gly Ile Phe Leu
145 150 155 160

Ala Gly Gln Met Phe Thr Phe Arg Pro Arg Leu His Trp Thr Thr Gln
165 170 175

Glu Cys Asn Cys Ser Thr Tyr Pro Gly His Ile Thr Gly His Arg Met
180 185 190

Ala

<210> 243
<211> 193
<212> PRT
<213> hepatitis C virus

<400> 243

Thr Cys Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala
1 5 10 15

Pro Val Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Ala Val
20 25 30

Glu Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe
35 40 45

Ser Ile Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser
50 55 60

Ala Gln His Tyr Arg Asn Ile Ser Gly Ile Tyr His Val Thr Asn Asp
65 70 75 80

Cys Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp His His Ile Met His
85 90 95

Leu Pro Gly Cys Val Pro Cys Val Arg Thr Gly Asn Thr Ser Arg Cys
100 105 110

Trp Val Pro Leu Thr Pro Thr Val Ala Ala Pro Tyr Val Gly Ala Pro
115 120 125

Leu Glu Ser Met Arg Arg His Val Asp Leu Met Val Gly Ala Ala Thr
130 135 140

Val Cys Ser Ala Leu Tyr Ile Gly Asp Leu Cys Gly Gly Val Phe Leu
145 150 155 160

Val Gly Gln Met Phe Thr Phe Arg Pro Arg Arg His Trp Thr Thr Gln
165 170 175

Asp Cys Asn Cys Ser Ile Tyr Asp Gly His Ile Thr Gly His Arg Met
180 185 190

Ala

<210> 244
<211> 193
<212> PRT
<213> hepatitis C virus

<400> 244

Thr Cys Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala
1 5 10 15

Pro Val Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Ala Val
20 25 30

Glu Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe
35 40 45

Ser Ile Phe Leu Leu Val Leu Leu Ser Arg Leu Thr Val Pro Ala Ser
50 55 60

Ala Gln His Tyr Arg Asn Ala Ser Gly Ile Tyr His Val Thr Asn Asp
65 70 75 80

Cys Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp His His Ile Met His
85 90 95

Leu Pro Gly Cys Val Pro Cys Val Arg Thr Gly Asn Val Ser Arg Cys
100 105 110

Trp Ile Pro Leu Thr Pro Thr Val Ala Val Pro Tyr Leu Gly Ala Pro
115 120 125

Leu Thr Ser Val Arg Gln His Val Asp Leu Met Val Gly Ala Ala Thr
130 135 140

Leu Cys Ser Ala Leu Tyr Ile Gly Asp His Cys Gly Gly Val Phe Leu
145 150 155 160

Ala Gly Gln Met Val Ser Phe Gln Pro Arg Arg His Trp Thr Thr Gln
165 170 175

Asp Cys Asn Cys Ser Ile Tyr Val Gly His Ile Thr Gly His Arg Met
180 185 190

Ala

<210> 245
<211> 149
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (14)..(14)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE
<222> (20)..(20)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE
<222> (120)..(120)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE
<222> (134)..(134)
<223> Xaa represents any amino acid

<400> 245

Asp Gly Ile Asn Tyr Ala Thr Gly Asn Ile Pro Gly Cys Xaa Phe Ser
1 5 10 15

Ile Phe Leu Xaa Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser Ala
20 25 30

Thr Asn Tyr Arg Asn Val Ser Gly Ile Tyr His Val Thr Asn Asp Cys
35 40 45

Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp His His Ile Leu Ala Leu
50 55 60

Pro Gly Cys Val Pro Cys Val Arg Val Gly Asn Gln Ser Arg Cys Trp
65 70 75 80

Val Ala Leu Thr Pro Thr Val Ala Ala Pro Tyr Thr Ala Ala Pro Leu
85 90 95

Glu Ser Leu Arg Ser His Val Asp Leu Met Val Gly Ala Ala Thr Val
100 105 110

Cys Ser Ala Leu Tyr Ile Gly Xaa Leu Cys Gly Gly Leu Phe Leu Val
115 120 125

Gly Gln Met Phe Ser Xaa Gln Pro Arg Arg His Trp Thr Thr Gln Asp
130 135 140

Cys Asn Cys Ser Ile
145

<210> 246
<211> 119
<212> PRT
<213> hepatitis C virus

<400> 246

Tyr His Ile Thr Asn Asp Cys Pro Asn Ser Ser Val Val Tyr Glu Thr
1 5 10 15

Asp His His Ile Leu His Leu Pro Gly Cys Val Pro Cys Val Arg Thr
20 25 30

Gly Asn Val Ser Arg Cys Trp Thr Pro Val Thr Pro Thr Val Ala Ala
35 40 45

Val Ser Val Asp Ala Pro Leu Glu Ser Phe Arg Arg His Val Asp Leu
50 55 60

Met Val Gly Ala Ala Thr Leu Cys Ser Val Leu Tyr Val Gly Asp Leu
65 70 75 80

Cys Gly Gly Ala Phe Leu Val Gly Gln Met Phe Thr Phe Gln Pro Arg
85 90 95

Arg His Trp Thr Thr Gln Asp Cys Asn Cys Ser Ile Tyr Thr Gly His
100 105 110

Ile Thr Gly His Arg Met Ala
115

<210> 247
<211> 94
<212> PRT
<213> hepatitis C virus

<400> 247

Pro Gln Arg Lys Thr Lys Arg Asn Thr Ile Arg Arg Pro Gln Asp Val
1 5 10 15

Lys Phe Pro Gly Gly Gln Ile Val Gly Gly Val Tyr Val Leu Pro
20 25 30

Arg Arg Gly Pro Arg Leu Gly Val Cys Ala Thr Arg Lys Thr Ser Glu
35 40 45

Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro Ile Pro Lys Ala Arg Arg
50 55 60

Ser Glu Gly Arg Ser Trp Ala Gln Pro Gly Tyr Pro Trp Pro Leu Tyr
65 70 75 80

Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp Leu Leu Ser Pro
85 90

<210> 248
<211> 100
<212> PRT
<213> hepatitis C virus

<400> 248

Met Ser Thr Leu Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Ile
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Val Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Ala Arg Arg Ser Glu Gly Arg Ser Trp Ala Gln Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro
100

<210> 249
<211> 100
<212> PRT
<213> hepatitis C virus

<400> 249

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn
1 5 10 15

Arg Arg Pro Met Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Ala Arg Arg Ser Glu Gly Arg Ser Trp Ala Gln Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro
100

<210> 250
<211> 68
<212> PRT
<213> hepatitis C virus

<400> 250

Thr Asn Arg Arg Pro Thr Asp Val Lys Phe Pro Gly Gly Gln Ile
1 5 10 15

Val Gly Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val
20 25 30

Arg Ala Thr Gly Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg
35 40 45

Gln Pro Ile Pro Lys Ala Arg Arg Ser Glu Gly Arg Ser Trp Ala Gln
50 55 60

Pro Gly Phe Pro
65

<210> 251
<211> 80
<212> PRT
<213> hepatitis C virus

<400> 251

Lys Thr Lys Arg Asn Thr Asn Arg Arg Pro Met Asp Val Lys Phe Pro
1 5 10 15

Gly Gly Gly Gln Ile Val Gly Val Tyr Leu Leu Pro Arg Arg Gly
20 25 30

Pro Arg Leu Gly Val Arg Ala Thr Arg Lys Thr Ser Glu Arg Ser Gln
35 40 45

Pro Arg Gly Arg Arg Gln Pro Ile Pro Lys Ala Arg Arg Ser Glu Gly
50 55 60

Arg Ser Trp Ala Gln Pro Gly Tyr Pro Trp Pro Leu Tyr Gly Asn Glu
65 70 75 80

<210> 252

<211> 74

<212> PRT

<213> hepatitis C virus

<400> 252

Thr Asn Arg Arg Pro Met Asp Val Lys Phe Pro Gly Gly Gln Ile
1 5 10 15

Val Gly Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val
20 25 30

Arg Ala Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg
35 40 45

Gln Pro Ile Pro Lys Ala Arg Arg Ser Glu Gly Arg Ser Trp Ala Gln
50 55 60

Pro Gly Tyr Pro Trp Pro Leu Tyr Gly Lys
65 70

<210> 253
<211> 100
<212> PRT
<213> hepatitis C virus

<400> 253

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn
1 5 10 15

Arg Arg Pro Met Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Ala Arg Arg Ser Glu Gly Arg Ser Trp Ala Gln Ala Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro
100

<210> 254
<211> 128
<212> PRT
<213> hepatitis C virus

<400> 254

Val Glu Val Lys Asp Thr Gly Asp Ser Tyr Met Pro Thr Asn Asp Cys
1 5 10 15

Ser Asn Ser Ser Ile Val Trp Gln Leu Glu Gly Ala Val Leu His Thr
20 25 30

Pro Gly Cys Val Pro Cys Glu Arg Thr Ala Asn Val Ser Arg Cys Trp
35 40 45

Val Pro Val Ala Pro Asn Leu Ala Ile Ser Gln Pro Gly Ala Leu Thr
50 55 60

Lys Gly Leu Arg Ala His Ile Asp Ile Ile Val Met Ser Ala Thr Val
65 70 75 80

Cys Ser Ala Leu Tyr Val Gly Asp Val Cys Gly Ala Leu Met Leu Ala
85 90 95

Ala Gln Val Val Val Val Ser Pro Gln His His Thr Phe Val Gln Glu
100 105 110

Cys Asn Cys Ser Ile Tyr Pro Gly Arg Ile Thr Gly His Arg Met Ala
115 120 125

<210> 255
<211> 128
<212> PRT
<213> hepatitis C virus

<400> 255

Leu Glu Trp Arg Asn Thr Ser Gly Leu Tyr Val Leu Thr Asn Asp Cys
1 5 10 15

Ser Asn Ser Ser Ile Val Tyr Glu Ala Asp Asp Val Ile Leu His Thr
20 25 30

Pro Gly Cys Ile Pro Cys Val Gln Asp Gly Asn Thr Ser Thr Cys Trp
35 40 45

Thr Pro Val Thr Pro Thr Val Ala Val Lys Tyr Val Gly Ala Thr Thr
50 55 60

Ala Ser Ile Arg Ser His Val Asp Leu Leu Val Gly Ala Ala Thr Met
65 70 75 80

Cys Ser Ala Leu Tyr Val Gly Asp Met Cys Gly Ala Val Phe Leu Val

85

90

95

Gly Gln Ala Phe Thr Phe Arg Pro Arg Arg His Gln Thr Val Gln Thr
100 105 110

Cys Asn Cys Ser Leu Tyr Pro Gly His Leu Ser Gly His Arg Met Ala
115 120 125

<210> 256
<211> 128
<212> PRT
<213> hepatitis C virus

<400> 256

Glu His Tyr Arg Asn Ala Ser Gly Ile Tyr His Ile Thr Asn Asp Cys
1 5 10 15

Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp His His Ile Leu His Leu
20 25 30

Pro Gly Cys Val Pro Cys Val Met Thr Gly Asn Thr Ser Arg Cys Trp
35 40 45

Thr Pro Val Thr Pro Thr Val Ala Val Ala His Pro Gly Ala Pro Leu
50 55 60

Glu Ser Phe Arg Arg His Val Asp Leu Met Val Gly Ala Ala Thr Leu
65 70 75 80

Cys Ser Ala Leu Tyr Val Gly Asp Leu Cys Gly Gly Ala Phe Leu Met
85 90 95

Gly Gln Met Ile Thr Phe Arg Pro Arg Arg His Trp Thr Thr Gln Glu
100 105 110

Cys Asn Cys Ser Ile Tyr Thr Gly His Ile Thr Gly His Arg Met Ala
115 120 125

<210> 257
<211> 128

<212> PRT

<213> hepatitis C virus

<400> 257

Glu His Tyr Arg Asn Ala Ser Gly Ile Tyr His Ile Thr Asn Asp Cys
1 5 10 15

Pro Asn Ser Ser Val Val Tyr Glu Thr Asp His His Ile Leu His Leu
20 25 30

Pro Gly Cys Val Pro Cys Val Arg Ala Gly Asn Val Ser Arg Cys Trp
35 40 45

Thr Pro Val Thr Pro Thr Val Ala Ala Val Ser Met Asp Ala Pro Leu
50 55 60

Glu Ser Phe Arg Arg His Val Asp Leu Met Val Gly Ala Ala Thr Val
65 70 75 80

Cys Ser Val Leu Tyr Val Gly Asp Leu Cys Gly Gly Ala Phe Leu Val
85 90 95

Gly Gln Met Phe Thr Phe Gln Pro Arg Arg His Trp Thr Thr Gln Asp
100 105 110

Cys Asn Cys Ser Ile Tyr Thr Gly His Ile Thr Gly His Arg Met Ala
115 120 125

<210> 258

<211> 128

<212> PRT

<213> hepatitis C virus

<400> 258

Val His Tyr Arg Asn Ala Ser Gly Val Tyr His Val Thr Asn Asp Cys
1 5 10 15

Pro Asn Thr Ser Ile Val Tyr Glu Thr Glu His His Ile Met His Leu
20 25 30

Pro Gly Cys Val Pro Cys Val Arg Thr Glu Asn Thr Ser Arg Cys Trp
35 40 45

Val Pro Leu Thr Pro Thr Val Ala Ala Pro Tyr Pro Asn Ala Pro Leu
50 55 60

Glu Ser Met Arg Arg His Val Asp Leu Met Val Gly Ala Ala Thr Met
65 70 75 80

Cys Ser Ala Phe Tyr Ile Gly Asp Leu Cys Gly Gly Val Phe Leu Val
85 90 95

Gly Gln Leu Phe Asp Phe Arg Pro Arg Arg His Trp Thr Thr Gln Asp
100 105 110

Cys Asn Cys Ser Ile Tyr Pro Gly His Val Ser Gly His Arg Met Ala
115 120 125

<210> 259
<211> 128
<212> PRT
<213> hepatitis C virus

<400> 259

Ile His Tyr Arg Asn Ala Ser Gly Val Tyr His Val Thr Asn Asp Cys
1 5 10 15

Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp His His Ile Leu His Leu
20 25 30

Pro Gly Cys Leu Pro Cys Val Arg Val Gly Asn Gln Ser Arg Cys Trp
35 40 45

Val Ala Leu Ser Pro Thr Val Ala Ala Pro Tyr Ile Gly Ala Pro Val
50 55 60

Glu Ser Phe Arg Arg His Val Asp Met Met Val Gly Ala Ala Thr Val
65 70 75 80

Cys Ser Ala Leu Tyr Ile Gly Asp Leu Cys Gly Gly Val Phe Leu Val
85 90 95

Gly Gln Met Phe Ser Phe Arg Pro Arg Arg His Trp Thr Thr Gln Asp
100 105 110

Cys Asn Cys Ser Ile Tyr Ala Gly His Ile Thr Gly His Gly Met Ala
115 120 125

<210> 260
<211> 128
<212> PRT
<213> hepatitis C virus

<400> 260

Val Asn Tyr Arg Asn Ala Ser Gly Ile Tyr His Ile Thr Asn Asp Cys
1 5 10 15

Pro Asn Ser Ser Ile Val Tyr Glu Thr Glu His His Ile Leu His Leu
20 25 30

Pro Gly Cys Leu Pro Cys Val Arg Val Gly Asn Gln Ser Arg Cys Trp
35 40 45

Val Ala Leu Thr Pro Thr Val Ala Ala Pro Tyr Ile Gly Ala Pro Leu
50 55 60

Glu Ser Leu Arg Ser His Val Asp Leu Met Val Gly Ala Ala Thr Ala
65 70 75 80

Cys Ser Ala Leu Tyr Ile Gly Asp Leu Cys Gly Gly Val Phe Leu Val
85 90 95

Gly Gln Met Phe Ser Phe Gln Pro Arg Arg His Trp Thr Thr Gln Asp
100 105 110

Cys Asn Cys Ser Ile Tyr Ala Gly His Val Thr Gly His Arg Met Ala
115 120 125

<210> 261

<211> 169
<212> PRT
<213> hepatitis C virus

<400> 261

Leu Ala His Gly Val Arg Ala Val Glu Asp Gly Ile Asn Tyr Ala Thr
1 5 10 15

Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile Phe Leu Leu Ala Leu Leu
20 25 30

Ser Cys Leu Thr Val Pro Ala Ser Ala Val His Tyr His Asn Thr Ser
35 40 45

Gly Ile Tyr His Leu Thr Asn Asp Cys Pro Asn Ser Ser Ile Val Phe
50 55 60

Glu Ala Val His His Ile Leu His Leu Pro Gly Cys Val Pro Cys Val
65 70 75 80

Arg Thr Gly Asn Gln Ser Arg Cys Trp Val Ala Leu Thr Pro Thr Leu
85 90 95

Ala Ala Pro Tyr Leu Gly Ala Pro Leu Glu Ser Met Arg Arg His Val
100 105 110

Asp Leu Met Val Gly Thr Ala Thr Leu Cys Ser Ala Leu Tyr Val Gly
115 120 125

Asp Leu Cys Gly Gly Ile Phe Leu Ala Gly Gln Met Phe Thr Phe Arg
130 135 140

Pro Arg Leu His Trp Thr Thr Gln Glu Cys Asn Cys Ser Thr Tyr Pro
145 150 155 160

Gly His Ile Thr Gly His Arg Met Ala
165

<210> 262
<211> 128
<212> PRT

<213> hepatitis C virus

<400> 262

Val His Tyr His Asn Thr Ser Gly Ile Tyr His Ile Thr Asn Asp Cys
1 5 10 15

Pro Asn Ser Ser Ile Val Phe Glu Ala Glu His His Ile Leu His Leu
20 25 30

Pro Gly Cys Val Pro Cys Val Arg Thr Gly Asn Gln Ser Arg Cys Trp
35 40 45

Ile Ala Leu Thr Pro Thr Leu Ala Ala Pro His Ile Gly Ala Pro Leu
50 55 60

Glu Ser Met Arg Arg His Val Asp Leu Met Val Gly Thr Ala Thr Leu
65 70 75 80

Cys Ser Ala Leu Tyr Ile Gly Asp Leu Cys Gly Gly Ile Phe Leu Val
85 90 95

Gly Gln Met Phe Asn Phe Arg Pro Arg Leu His Trp Thr Thr Gln Glu
100 105 110

Cys Asn Cys Ser Ile Tyr Pro Gly His Ile Thr Gly His Arg Met Ala
115 120 125

<210> 263

<211> 128

<212> PRT

<213> hepatitis C virus

<400> 263

Val Pro Tyr Arg Asn Ala Ser Gly Ile Tyr His Val Thr Asn Asp Cys
1 5 10 15

Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp Asp Leu Ile Leu His Ala
20 25 30

Pro Gly Cys Val Pro Cys Val Arg Lys Asp Asn Val Ser Arg Cys Trp
35 40 45

Val Gln Ile Thr Pro Thr Leu Ser Ala Pro Ser Phe Gly Ala Val Thr
50 55 60

Ala Pro Leu Arg Arg Ala Val Asp Tyr Leu Val Gly Gly Ala Ala Leu
65 70 75 80

Cys Ser Ala Leu Tyr Val Gly Asp Ala Cys Gly Ala Leu Phe Leu Val
85 90 95

Gly Gln Met Phe Thr Tyr Arg Pro Arg Gln His Ala Thr Val Gln Asp
100 105 110

Cys Asn Cys Ser Ile Tyr Ser Gly His Val Thr Gly His Gln Met Ala
115 120 125

<210> 264
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 264
ctccacagtc actgagagcg acatccgtac ggaggaggca atctaccaat gttgtgacct 60
cgaccccaa gcccgcgtgg ccatcaagtc cctcaccgag aggctttatg ttggggcc 120
tcttaccaat tcaagggggg agaactgcgg ctatgcagg tgccgcgcga gcggcgtact 180
gacaactagc tgtggtaaca ccctcacttg ctacatcaag gcccggcag cctgtcgagc 240
cgcagggctc caggactgca ccatgctcgt gtgtggcagc gacttagtcg ttatctgtga 300
aagcgcgggg gtccaggagg acgcggcag cctgagagcc 340

<210> 265
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 265
ctcaacggtc actgagaatg acatccgtac tgaggaatca atttaccaat gttgtgactt 60
ggcccccgaa gccaggcagg ccataaggc gtcacagag cggctttatg tcgggggtcc 120
cctgactaat tcgaaggggc agaactgcgg ttatgcgg tgccgcgcaa gtggcgtgct 180
gacgactagc tgcggcaaca ccctcacatg ttacttgaag gccactgcgg cctgtcgagc 240
tgcaaagctc caggactgca cgatgctcgt gaacggagac gaccttgcg ttatctgtga 300
gagtgcggga acccaggagg atgcggcggc cctacgagcc 340

<210> 266
<211> 340
<212> DNA
<213> hepatitis C virus

<220>
<221> misc_feature
<222> (1)..(1)
<223> n represents any nucleotide

<400> 266
ntcaacagtc accgagaacg acatccgtgt tgaggagtca atttaccaat gttgtgactt 60
ggcccccgag gccagacagg ccataaaagtc gtcacagag cggctttata tcgggggtcc 120
cctgactaat tcaaaggggc agaactgtgg ctatgcggc tgccgcgcaa gcggcgtgct 180
gacgaccagc tgcggtaata cccttacatg ttacctaaag gcctctgcag cctgtcgagc 240
tgcgaagctc caggactgca cgatgctcgt gtgcggggac gaccttgcg ttatctgtga 300
aagcgcggga acccaagagg acgcggcggag cctacgagtc 340

<210> 267
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 267
ctcaaccgtc actgagagag acatcaggac tgaggagtcc atatatcggt cttgttcctt 60
gcccggaggag gcccacactg ccatacactc actgactgag agactttacg tgggaggggcc 120

catgttcaac	agcaagggcc	agacctgcgg	gtacaggcgt	tgccgcgcca	gcgggggtgct	180
taccactagc	atggggaaaca	ccatcacatg	ctatgtaaa	gccttagcgg	cctgtaaaggc	240
tgcagggata	attgcgccc	caatgctgg	atgcggcgat	gacttggttg	tcatctcaga	300
gagccagggg	accgaggagg	acgagcggaa	cctgagagcc			340

<210> 268
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 268						
ctcaaccgtc	acggagaggg	acataagaac	agaagaatcc	atatacagg	cttggttctct	60
gcctcaagaa	gccagaactg	tcatacactc	gctcactgag	agactttacg	taggagggcc	120
catgacaaac	agcaaagggc	aatcctgcgg	ctacaggcgt	tgccgcgcaa	gcgggttttt	180
caccaccaggc	atggggaaata	ccatgacatg	ttacatcaaa	gcccttgcag	cgtgtaaaggc	240
tgcagggatc	gtggaccctg	ttatgttggt	gtgtggagac	gacctggtcg	tcatctcaga	300
gagccaaggt	aacgaggagg	acgagcggaa	cctgagagct			340

<210> 269
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 269						
ctcaactgtc	actgaacagg	acatcagggt	ggaagaggag	atataccaat	gctgtaacct	60
tgaaccggag	gccaggagag	tgtatctcctc	cctcacggag	cggctttact	gcggggggccc	120
tatgttcaac	agcaaggggg	cccaatgtgg	ttatcgccgg	tgccgtgcca	gtggagtccct	180
gcctaccaggc	ttcggcaaca	caatcacttg	ttacatcaag	gccacagcgg	ctgcgaaggc	240
cgcaggcctc	cggAACCCGG	actttttgt	ctgcggagat	gatctggtcg	tagtggctga	300
gagcgatggc	gtcgatgagg	atagagcagc	cctgagagcc			340

<210> 270
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 270
ctctactgtc actgaacatg acatcaggac ggaggaggag atataccat gctgtgacct 60
tgagccagag gctcggagg cgatcagcgc tctcacagag cggctgtaca tcggaggtcc 120
catgtacaac agtaagggc tccagtgcgg ctatcgccgc tgccgcgcca gcggcgtctt 180
gcctaccagc ttccggcaata caataacctg ttacatcaag gccactgcag ccagcaggc 240
tgccgggtctc aaagacccat cttcccttgt ctgcggagac gatttggtgg ttgtatctga 300
aagctgcggc gtcgaggagg acagagcagc tctgcgagcc 340

<210> 271
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 271
ctccactgtc accgaaaagg acatcagggt cgaggaggag gtctatcagt gttgtgacct 60
ggagcccgaa gcccgcagg caattaccgc cctaacagag agactctacg tggccggtcc 120
catgcataac agcaagggag acctgtgcgg gtatcgaga tgtcgcgcaa gcggcgtcta 180
caccaccaggc ttccggaaaca cactgacgtg ctacctaaa gcctcagccg ctatcaaagc 240
ggcggggctg agagactgca ccatgttggt ctgtggtgat gacctgggttg tcatcgctga 300
gagcgatggc gtagaggagg acaaacgacc cctcggagcc 340

<210> 272
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 272
ctccactgtc accgaaaagg acatcagggt cgaggaggag gtatatcagt gttgtgacct 60

ggagcccgag gcccgcagag caattaccgc cctaacagag agactctacg tggcggtcc	120
catgcataac agcaggggag acctgtgcgg gtatgcaga tgccgtgcga gcggcgtcta	180
caccaccagc ttcgggaaca cactgacgtg ctatctaaa gcctcagccg ctatcagagc	240
ggcggggctg agagactgca ccatgttggt ctgtggtgat gacctggtgc tcattgctga	300
aagcgatggc gtagaggagg acaaacgagc cctcggagcc	340

<210> 273
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 273	
ctccactgta accgaaaaag acatcagggt cgaggaggag gtatatcagt gttgtgacct	60
ggagcccgaa gcccgcagg taattaccgc cctaacagag agactctatg tggcggtcc	120
catgcataat agcaaaggag acctgtgcgg gtatgcaga tgccgcgcaa gcggcgtcta	180
caccaccagc ttcgggaaca cactgacgtg ctatctaaa gcctcagccg ccatcagggc	240
gtcagggctg agagactgca ctatgttggt ctatggtgc gacctggtgc tcattgccga	300
gagcgatggc gtagaggagg acaaacgagc cctcggagtc	340

<210> 274
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 274	
ctccactgta accgaaaaagg acatcagggt cgaggaggag gtgtatcagt gttgtgacct	60
ggagcccgag gcccgcagg caattactgc cctaacagag agactctatg tggcggtcc	120
catgcataac agcaaggagg acctgtgtgg gtatgcaga tgccgcgcaa gcggcgtcta	180
caccaccagc ttcgggaaca cactgacgtg ctacctaaa gcctcagccg ctatcagagc	240
ggcggggctg agagactgca ccatgttggt ctgtggtgat gacctggtgc tcatcgctga	300
gagcgatggc gttgaggagg acaaacgagc cctcggagcc	340

<210> 275
<211> 340
<212> DNA
<213> hepatitis C virus

<220>
<221> misc_feature
<222> (329)..(329)
<223> n represents any nucleotide

<400> 275
ctccactgtg actgagagag acatcaaggt cgaagaagaa gtctatcagt gttgtatct 60
ggagcccgag gcccgcagg taatagccgc cctcacggag agactctacg tggcgccccc 120
catgcataac agcaaggagg acctttgcgg gtatcgtaga tgccgcgcga gcggcgtata 180
caccaccagg ttcgggaaca caatgacgtg ctacctaag gcctcagcaag ccatcaggc 240
tgcggggcta aaggattgca ccatgctggt ttgcggtgac gacctagtcg tgatcgccga 300
gagcggtggc gttgaggagg acaaacganc cctcggagct 340

<210> 276
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 276
ctccacggtg accgaaaggg atatcaggac cgaggaagag atctaccagt gctgcgacct 60
ggagcccgaa gcccgcagg tgatatccgc cctaacggaa agactctacg tggcggtcc 120
catgtacaac tccaaggggg acctatgcgg gcaacggagg tgccgcgc当地 gcggggtcta 180
caccaccagg ttcgggaaca ctgtaacgtg ttatctcaag gccgttgcgg ctactaggc 240
cgcaggtctg aaaggttgca gcatgctggt ttgtggagac gacttagtcg tcatctgcga 300
gagcggcggc gtagaggagg atgcaagagc cctccgagcc 340

<210> 277
<211> 340
<212> DNA

<213> hepatitis C virus

<400> 277
ctcgaccgtt accgaacatg acataatgac tgaagagtct atttaccaat cattgtactt 60
gcagcctgag gcgcgtgtgg caatacggtc actcacccaa cgcctgtact gtggaggccc 120
catgtataac agcaaggggc aacaatgtgg ttatcgtaga tgccgcgcca gcggcgtctt 180
caccactagt atgggcaaca ccatgacgtg ctacattaag gcttagcct cctgtagagc 240
cgcaaagctc caggactgca cgctcctggt gtgtggtgat gatcttggccatattgcga 300
gagccagggg acgcacgagg ataaagcgag cctgagagcc 340

<210> 278
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 278

Ser Thr Val Thr Glu Ser Asp Ile Arg Thr Glu Glu Ala Ile Tyr Gln
1 5 10 15

Cys Cys Asp Leu Asp Pro Gln Ala Arg Val Ala Ile Lys Ser Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Pro Leu Thr Asn Ser Arg Gly Glu Asn
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Cys
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Ile Lys Ala Arg Ala Ala Cys Arg Ala
65 70 75 80

Ala Gly Leu Gln Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Cys Glu Ser Ala Gly Val Gln Glu Asp Ala Ala Ser Leu Arg
100 105 110

Ala

<210> 279
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 279

Ser Thr Val Thr Glu Asn Asp Ile Arg Thr Glu Glu Ser Ile Tyr Gln
1 5 10 15

Cys Cys Asp Leu Ala Pro Glu Ala Arg Gln Ala Ile Arg Ser Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Leu Thr Asn Ser Lys Gly Gln Asn
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Cys
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Thr Ala Ala Cys Arg Ala
65 70 75 80

Ala Lys Leu Gln Asp Cys Thr Met Leu Val Asn Gly Asp Asp Leu Val
85 90 95

Val Ile Cys Glu Ser Ala Gly Thr Gln Glu Asp Ala Ala Leu Arg
100 105 110

Ala

<210> 280
<211> 74
<212> PRT
<213> hepatitis C virus

<400> 280

Ile Tyr Gln Cys Cys Asp Leu His Pro Asp Ala Arg Ala Ala Ile Lys
1 5 10 15

Asn Leu Thr Glu Arg Leu Tyr Val Gly Gly Pro Leu Thr Asn Ser Lys
20 25 30

Gly Glu Asn Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr
35 40 45

Thr Ser Cys Gly Asn Thr Leu Thr Cys Tyr Ile Lys Ala Leu Ala Ala
50 55 60

Cys Arg Ala Ala Gly Leu Arg Asp Cys Thr
65 70

<210> 281

<211> 113

<212> PRT

<213> hepatitis C virus

<400> 281

Ser Thr Val Thr Glu Arg Asp Ile Arg Thr Glu Glu Ser Ile Tyr Arg
1 5 10 15

Ala Cys Ser Leu Pro Glu Glu Ala His Thr Ala Ile His Ser Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Phe Asn Ser Lys Gly Gln Thr
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Met
50 55 60

Gly Asn Thr Ile Thr Cys Tyr Val Lys Ala Leu Ala Ala Cys Lys Ala
65 70 75 80

Ala Gly Ile Ile Ala Pro Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ser Glu Ser Gln Gly Thr Glu Glu Asp Glu Arg Asn Leu Arg
100 105 110

Ala

<210> 282
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 282

Ser Thr Val Thr Glu Arg Asp Ile Arg Thr Glu Glu Ser Ile Tyr Gln
1 5 10 15

Ala Cys Ser Leu Pro Gln Glu Ala Arg Thr Val Ile His Ser Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Thr Asn Ser Lys Gly Gln Ser
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Phe Thr Thr Ser Met
50 55 60

Gly Asn Thr Met Thr Cys Tyr Ile Lys Ala Leu Ala Ala Cys Lys Ala
65 70 75 80

Ala Gly Ile Val Asp Pro Val Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ser Glu Ser Gln Gly Asn Glu Glu Asp Glu Arg Asn Leu Arg
100 105 110

Ala

<210> 283
<211> 74
<212> PRT
<213> hepatitis C virus

<400> 283

Ile Tyr Gln Ser Cys Ser Leu Pro Glu Glu Ala Arg Thr Ala Ile His
1 5 10 15

Ser Leu Thr Glu Arg Leu Tyr Val Gly Gly Pro Met Thr Asn Ser Lys
20 25 30

Gly Gln Ser Cys Gly Tyr Arg Arg Cys Arg Ala Ser Ala Val Leu Thr
35 40 45

Thr Ser Met Gly Asn Thr Leu Thr Cys Tyr Val Lys Ala Arg Ala Ala
50 55 60

Cys Asn Ala Ala Gly Ile Val Ala Pro Thr
65 70

<210> 284

<211> 113

<212> PRT

<213> hepatitis C virus

<400> 284

Ser Thr Val Thr Glu Arg Asp Ile Arg Thr Glu Glu Ser Ile Tyr Leu
1 5 10 15

Ala Cys Ser Leu Pro Glu Gln Ala Arg Thr Ala Ile His Ser Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Leu Asn Ser Lys Gly Gln Thr
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Phe Thr Thr Ser Met
50 55 60

Gly Asn Thr Ile Thr Cys Tyr Val Lys Ala Gln Ala Ala Cys Lys Ala
65 70 75 80

Ala Gly Ile Ile Ala Pro Thr Met Leu Val Cys Gly Asp Asp Leu Val

85

90

95

Val Ile Ser Glu Ser Gln Gly Thr Glu Glu Asp Glu Arg Asn Leu Arg
100 105 110

Ala

<210> 285
<211> 71
<212> PRT
<213> hepatitis C virus

<400> 285

Leu Thr Glu Arg Leu Tyr Cys Gly Gly Pro Met Phe Asn Ser Lys Gly
1 5 10 15

Ala Gln Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Pro Thr
20 25 30

Ser Phe Gly Asn Thr Ile Thr Cys Tyr Ile Lys Ala Thr Ala Ala Ala
35 40 45

Arg Ala Ala Gly Leu Arg Asn Pro Asp Phe Leu Val Cys Gly Asp Asp
50 55 60

Leu Val Val Val Ala Glu Ser
65 70

<210> 286
<211> 71
<212> PRT
<213> hepatitis C virus

<400> 286

Leu Thr Glu Arg Leu Tyr Cys Gly Gly Pro Met Phe Asn Ser Lys Gly
1 5 10 15

Ala Gln Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Pro Thr
20 25 30

Ser Phe Gly Asn Thr Ile Thr Cys Tyr Ile Lys Ala Thr Ala Ala Ala
35 40 45

Lys Ala Ala Gly Leu Arg Ser Pro Asp Phe Leu Val Cys Gly Asp Asp
50 55 60

Leu Val Val Val Ala Glu Ser
65 70

<210> 287
<211> 71
<212> PRT
<213> hepatitis C virus

<400> 287

Leu Thr Glu Arg Leu Tyr Cys Gly Gly Pro Met Phe Asn Ser Lys Gly
1 5 10 15

Ala Gln Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Pro Thr
20 25 30

Ser Phe Gly Asn Thr Ile Thr Cys Tyr Ile Lys Ala Thr Ala Ala Ala
35 40 45

Lys Ala Ala Gly Leu Arg Asn Pro Asp Phe Leu Val Cys Gly Asp Asp
50 55 60

Leu Val Val Val Ala Glu Ser
65 70

<210> 288
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 288

Ser Thr Val Thr Glu His Asp Ile Arg Thr Glu Glu Glu Ile Tyr Gln
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Lys Ala Ile Ser Ala Leu Thr
20 25 30

Glu Arg Leu Tyr Ile Gly Gly Pro Met Tyr Asn Ser Lys Gly Leu Gln
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Pro Thr Ser Phe
50 55 60

Gly Asn Thr Ile Thr Cys Tyr Ile Lys Ala Lys Ala Ala Ser Arg Ala
65 70 75 80

Ala Gly Leu Lys Asp Pro Ser Phe Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Val Ser Glu Ser Cys Gly Val Glu Glu Asp Arg Ala Ala Leu Arg
100 105 110

Ala

<210> 289
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 289

Ser Thr Val Thr Glu Lys Asp Ile Arg Val Glu Glu Glu Val Tyr Gln
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Lys Ala Ile Thr Ala Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met His Asn Ser Lys Gly Asp Leu
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe

50

55

60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Ser Ala Ala Ile Lys Ala
65 70 75 80

Ala Gly Leu Arg Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ala Glu Ser Asp Gly Val Glu Glu Asp Lys Arg Pro Leu Gly
100 105 110

Ala

<210> 290
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 290

Ser Thr Val Thr Glu Lys Asp Ile Arg Val Glu Glu Glu Val Tyr Gln
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Arg Ala Ile Thr Ala Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met His Asn Ser Arg Gly Asp Leu
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Ser Ala Ala Ile Arg Ala
65 70 75 80

Ala Gly Leu Arg Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ala Glu Ser Asp Gly Val Glu Glu Asp Lys Arg Ala Leu Gly
100 105 110

Ala

<210> 291
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 291

Ser Thr Val Thr Glu Lys Asp Ile Arg Val Glu Glu Glu Val Tyr Gln
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Lys Val Ile Thr Ala Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met His Asn Ser Lys Gly Asp Leu
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Ser Ala Ala Ile Arg Ala
65 70 75 80

Ser Gly Leu Arg Asp Cys Thr Met Leu Val Tyr Gly Asp Asp Leu Val
85 90 95

Val Ile Ala Glu Ser Asp Gly Val Glu Glu Asp Lys Arg Ala Leu Gly
100 105 110

Val

<210> 292
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 292

Ser Thr Val Thr Glu Lys Asp Ile Arg Val Glu Glu Glu Val Tyr Gln
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Lys Ala Ile Thr Ala Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met His Asn Ser Lys Gly Asp Leu
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Ser Ala Ala Ile Arg Ala
65 70 75 80

Ala Gly Leu Arg Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ala Glu Ser Asp Gly Val Glu Glu Asp Lys Arg Ala Leu Gly
100 105 110

Ala

<210> 293

<211> 113

<212> PRT

<213> hepatitis C virus

<220>

<221> MISC_FEATURE

<222> (110)..(110)

<223> Xaa represents any amino acid

<400> 293

Ser Thr Val Thr Glu Arg Asp Ile Lys Val Glu Glu Glu Val Tyr Gln
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Lys Val Ile Ala Ala Leu Thr

20

25

30

Glu Arg Leu Tyr Val Gly Gly Pro Met His Asn Ser Lys Gly Asp Leu
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe
50 55 60

Gly Asn Thr Met Thr Cys Tyr Leu Lys Ala Ser Ala Ala Ile Arg Ala
65 70 75 80

Ala Gly Leu Lys Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ala Glu Ser Gly Gly Val Glu Glu Asp Lys Arg Xaa Leu Gly
100 105 110

Ala

<210> 294
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 294

Ser Thr Val Thr Glu Arg Asp Ile Arg Val Glu Glu Glu Val Tyr Gln
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Thr Arg Lys Val Ile Ser Ala Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met His Asn Ser Arg Gly Asp Leu
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe
50 55 60

Gly Asn Thr Leu Thr Cys Phe Leu Lys Ala Thr Ala Ala Thr Lys Ala
65 70 75 80

Ala Gly Leu Lys Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ala Glu Ser Asp Gly Val Glu Glu Asp Arg Arg Ala Leu Gly
100 105 110

Ala

<210> 295
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 295

Ser Thr Val Thr Glu Arg Asp Ile Arg Thr Glu Glu Glu Ile Tyr Gln
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Lys Val Ile Ser Ala Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Tyr Asn Ser Lys Gly Asp Leu
35 40 45

Cys Gly Gln Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe
50 55 60

Gly Asn Thr Val Thr Cys Tyr Leu Lys Ala Val Ala Ala Thr Arg Ala
65 70 75 80

Ala Gly Leu Lys Gly Cys Ser Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Cys Glu Ser Gly Gly Val Glu Glu Asp Ala Arg Ala Leu Arg
100 105 110

Ala

<210> 296
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 296

Ser Thr Val Thr Glu Arg Asp Ile Arg Val Glu Glu Glu Ile Tyr Gln
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Lys Val Ile Ser Ala Leu Thr
20 25 30

Glu Arg Leu Tyr Lys Gly Gly Pro Met Tyr Asn Ser Lys Gly Asp Leu
35 40 45

Cys Gly Leu Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe
50 55 60

Gly Asn Thr Val Thr Cys Tyr Leu Lys Ala Thr Ala Ala Thr Arg Ala
65 70 75 80

Ala Gly Leu Lys Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ala Glu Ser Gly Gly Val Glu Glu Asp Ala Arg Ala Leu Arg
100 105 110

Ala

<210> 297
<211> 113
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (22)..(22)
<223> Xaa represents any amino acid

<220>
<221> MISC_FEATURE

<222> (8) .. (8)

<223> Xaa represents any amino acid

<220>

<221> MISC_FEATURE

<222> (24) .. (24)

<223> Xaa represents any amino acid

<400> 297

Pro Thr Val Thr Glu Arg Asp Xaa Arg Val Glu Glu Glu Val Tyr Gln
1 5 10 15

Cys Cys Asn Leu Glu Xaa Asp Xaa Arg Lys Val Ile Asn Ala Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met His Asn Ser Lys Gly Asp Leu
35 40 45

Cys Gly Ile Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Ser Phe
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Thr Ala Ala Thr Arg Ala
65 70 75 80

Ala Gly Leu Lys Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ala Glu Ser Ile Gly Ile Asp Glu Asp Lys Gln Ala Leu Arg
100 105 110

Thr

<210> 298

<211> 113

<212> PRT

<213> hepatitis C virus

<220>

<221> MISC_FEATURE

<222> (4)..(4)

<223> Xaa represents any amino acid

<220>

<221> MISC_FEATURE

<222> (109)..(109)

<223> Xaa represents any amino acid

<220>

<221> MISC_FEATURE

<222> (111)..(111)

<223> Xaa represents any amino acid

<400> 298

Ser Thr Val Xaa Glu Arg Asp Ile Arg Thr Glu Gly Glu Val Tyr Gln
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Lys Val Ile Thr Ala Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Phe Asn Ser Lys Gly Asp Leu
35 40 45

Cys Gly Gln Arg Arg Cys Arg Ala Ser Gly Val Phe Thr Thr Ser Phe
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Thr Ala Ala Thr Arg Ala
65 70 75 80

Ala Gly Leu Lys Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ser Glu Ser Ala Gly Val Glu Glu Asp Pro Xaa Thr Xaa Arg
100 105 110

Pro

<210> 299
<211> 74
<212> PRT
<213> hepatitis C virus

<400> 299

Val Tyr Gln Cys Cys Asn Leu Glu Pro Glu Ala Arg Lys Ala Ile Thr
1 5 10 15

Ala Leu Thr Glu Arg Leu Tyr Val Gly Gly Pro Met His Asn Ser Lys
20 25 30

Gly Asp Leu Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Phe Thr
35 40 45

Thr Ser Phe Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Thr Ala Ala
50 55 60

Ile Arg Ala Ala Gly Leu Arg Asp Cys Thr
65 70

<210> 300
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 300

Ser Thr Val Thr Glu His Asp Ile Met Thr Glu Glu Ser Ile Tyr Gln
1 5 10 15

Ser Cys Asp Leu Gln Pro Glu Ala Arg Ala Ala Ile Arg Ser Leu Thr
20 25 30

Gln Arg Leu Tyr Cys Gly Gly Pro Met Tyr Asn Ser Lys Gly Gln Gln
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Phe Thr Thr Ser Met
50 55 60

Gly Asn Thr Met Thr Cys Tyr Ile Lys Ala Leu Ala Ser Cys Arg Ala
65 70 75 80

Ala Arg Leu Arg Asp Cys Thr Leu Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Ala Ile Cys Glu Ser Gln Gly Thr His Glu Asp Glu Ala Ser Leu Arg
100 105 110

Ala

<210> 301
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 301

Ser Thr Val Thr Glu His Asp Ile Met Thr Glu Glu Ser Ile Tyr Gln
1 5 10 15

Ser Leu Tyr Leu Gln Pro Glu Ala Arg Val Ala Ile Arg Ser Leu Thr
20 25 30

Gln Arg Leu Tyr Cys Gly Gly Pro Met Tyr Asn Ser Lys Gly Gln Gln
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Phe Thr Thr Ser Met
50 55 60

Gly Asn Thr Met Thr Cys Tyr Ile Lys Ala Leu Ala Ser Cys Arg Ala
65 70 75 80

Ala Lys Leu Gln Asp Cys Thr Leu Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Ala Ile Cys Glu Ser Gln Gly Thr His Glu Asp Lys Ala Ser Leu Arg
100 105 110

Ala

<210> 302
<211> 13
<212> PRT
<213> hepatitis C virus

<400> 302

Ser Ala Gly Thr Gln Glu Asp Ala Ala Ser Leu Arg Val
1 5 10